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Can the Northeast Forget Manufactured Milk ?

"The 'New Look' in fluid milk prices today is the trend away from the use of manufactured dairy products prices as the basis for pricing fluid milk," says E. O. Mather, President of Dellwood Dairies in Yonkers, N. Y. But, he asks, "How long can we have pricing programs in the Northeast which completely ignore dairy products prices or the value of milk for other uses."

By **EDWARD O. MATHER**
President, Dellwood Dairies
Yonkers, N. Y.

E. O. MATHER

FROM TIME TO TIME over the last twelve to fourteen months there have been mutterings of discontent from producers and producer leaders in the Middlewest. These protests have been caused by a feeling that price regulation in the Northeastern fluid milk markets has resulted in the maintenance of Class I or fluid milk prices (and hence uniform or blended returns to producers) drastically out of line with prices paid to producers in the Middlewest for milk used for manufactured dairy products.

In order to analyze the price relationships which engendered these mutterings and protests, I set down in table form the prices paid by the mid-western condenseries that were formerly used in the computation of the old Class III price for evaporated milk and whole milk powder in the New York milk marketing order prior to the recent amendments to that order which became effective April first of this year. I then compared these prices with the Class I price for fluid milk in the New York market and have also compared them with the blended or uniform price paid in New York.

There have been, of course, wide variations between mid-western condensery prices and Class I and blended returns in the three major Northeastern fluid milk markets. In the case of the New York market, with which I am most familiar, it is my recollection that, generally and roughly speaking, we used to think (back in 1938, at least) that a Class I price $1.25 per cwt. over the mid-western condensery price was a pretty fair price and fairly accurately represented the additional costs incurred by New York dairy farmers in purchasing imported grain, paying Northeastern wage rates for farm labor, and in complying with the rigid sanitary regulations of the various Boards of Health. Actually, it will be noted that in 1940 this rough approximation was hit almost smack on the nose when the yearly average of the Class I-A price over the mid-western condensery price was $1.24 per cwt. The lowest average of Class I-A over mid-western condensery was 89c per cwt. and the highest was $1.69 in 1948. Similar comparisons can easily be made for both Boston and Philadelphia by glancing at the accompanying tables.

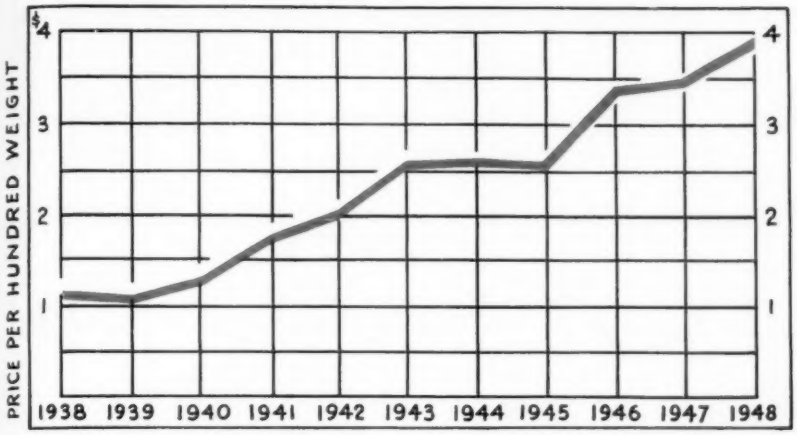
The really significant thing to examine, however, is what has happened beginning in September and October of last year. In the ten months from September through June the New York Class I-A price has exceeded the mid-western condensery price by an average of $2.48 per cwt.—almost double what historically we considered a fair price in excess of mid-western prices. Last November, the New York Class I-A price exceeded the mid-western condensery price by $2.80 per cwt.

In the same period, the Boston Class I price exceeded the mid-western condensery price by an average of $2.67 per cwt., with the November, 1948 Boston Class I price exceeding the mid-western condensery price by $2.99. The picture in Philadelphia is about the same, with the Philadelphia Class I price, during that ten months' period, exceeding the mid-western condensery price by an average of $2.84; the March, 1949 Philadelphia Class I price exceeding the mid-western condensery price by $3.14.

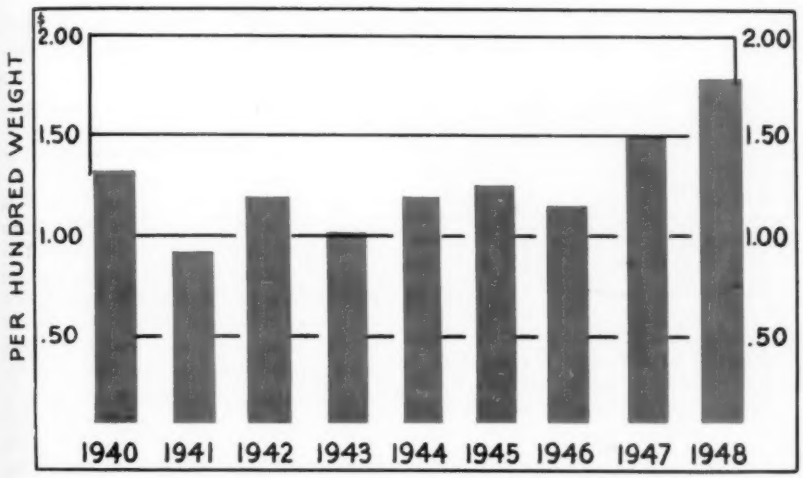
This unique phenomena is caused by the fact that the New York Class I-A price is tied to the Boston Class I price which is computed upon the basis of a formula which does not take into consideration prices paid dairy farmers for milk used in manufactured dairy products. The New York Class I-A formula (based upon butter-powder) has been suspended seventy times since it was originally introduced in the order and, for the last eleven months, the New York Class I-A price has moved up and down with the Boston Class I price, the New York Class I-A price being 19c lower than the Boston Class I price (a relationship which, I may add, parenthetically, is a sore point with New York handlers and producers!).

This Class I-A price, high in relation to mid-western condensery prices, has also been accompanied by a very low

PRICES PAID FOR MILK BY CONDENSERIES



AMOUNT NEW YORK CLASS 1A PRICE EXCEEDED MIDWEST CONDENSERY PRICE 1949-1948



price for surplus milk. It has been maintained at a time when the Northeastern markets were experiencing relatively large increases in production. The latest figures I have are that New York production is up approximately 15% while production for the United States is up about 3½%.

What are some of the problems created by this unnatural and, I suspect, temporary relationship. Frankly, I think they are mostly psychological and political. In the case of the New York pool, the high Class I-A price has, as previously noted, resulted in a tremendous increase in production, both total production and production per day per dairy. The high blended return also means increased pressure from individual producers and from operators of country receiving plants to get into the New York pool.

The New York Milk Market Administrator's office has had a number of requests from plants to be admitted to the pool effective August 1st. Those plants that withdrew from the pool during the war years, when fluid markets were available in Washington, Florida and the South, as well as in New England and up-state New York, are finding it impossible now to find markets that will enable them to pay their producers the blended returns being secured by pool producers. Hence there is a rush to get plants in the pool. What actual effect the addition of additional plants and producers will have on the uniform price is impossible to predict. I can predict, of course, that the blend will be substantially diluted with the inevitable result that pressures will develop for further increases in the Class I-A price!

As far as Northeastern handlers are concerned, the high Class I-A price has meant some dimunition in sales although I, for one, do not attribute the loss in fluid milk sales to the high Class I-A price. In my opinion, some reduction in family income coupled with the tremendous increase in the number of products competing for the consumer's dollar are the primary reasons for loss of sales. I just don't have any evidence that I consider to be satisfactory that will conclusively demonstrate that the high Class I-A price is really hurting sales.

The increased production does, of course, create some serious problems in the disposition of surplus milk. Frankly, if the Secretary had not adopted in some measure the recommendations of handlers and producers in the New York market and put the price for cream used in ice cream on a reasonably competitive basis with mid-western cream and with butter, handlers, in general, would have had a terrific job to dispose of the surplus milk this year. Sales of cream out of the New York pool to ice cream manufacturers have increased by more than 106 million pounds over April, May and June of last year. If Eastern ice cream manufacturers had continued their use of western cream and butter most of this butterfat would have had to go into cheese and butter. Even as it is, with the favorable present Class III price, over 121 million more pounds of New York pool milk were used in butter and cheese this year in April, May and June than were used in those three months last year.

From the point of view of Eastern producers and handlers, then, as I see it, the unnatural relationship between mid-western condensery prices and fluid milk prices in the Northeast has resulted in substantially increased production, pressure from producers and plants to get the protection of the federal milk marketing orders, and extremely low prices for surplus milk in order to enable handlers to move the surplus milk in competition with mid-western cream and butter.

Perhaps I am being naive but I am inclined to think that, as far as mid-western dairy farmers and plant operators are concerned, the problems created by this relationship are pretty much psychological. Of course, some mid-western operator will probably complain of a loss of cream markets in the East. But, is this a legitimate complaint? To the extent that the market is lost to locally produced milk priced on a truly competitive basis, the answer is that it is not a legitimate complaint. To the extent that the locally produced milk is in greater abundance because of the inducement of high local fluid milk prices in comparison with mid-western prices, perhaps the gripe is justified. Certainly no one would argue the point that locally produced milk should have first call on the local milk and cream markets, both fluid and manufacturing. No mid-western operator has any vested interest in Eastern markets except to the extent that Eastern producers cannot supply the needs of those markets.

When Eastern producers do supply all the needs, mid-western milk and cream, of necessity, will have to find other markets or other outlets.

Do mid-western operators have any gripe because of the pricing of surplus milk in the Northeast? I believe not. In order for a New York pool handler to sell cream to ice cream manufacturers in New York City, upstate New York and northern New Jersey, it has to be sold in competition with western cream and butter, at a price that grosses the handler less than 43c per cwt. of milk. Out of this 43c the handler has to pay the costs of operating country receiving or feeder stations, the cost of transporting the feeder milk to the separating or manufacturing plant, and all the costs of separating the cream and manufacturing skim milk powder. This 43c represents the gross return from all operations. Frankly, no one can get rich on this basis. Hence, I can not but reach the conclusion that the pricing of surplus milk in the New York order, at least, is not out of line with the competitive pricing of mid-western cream and butter.

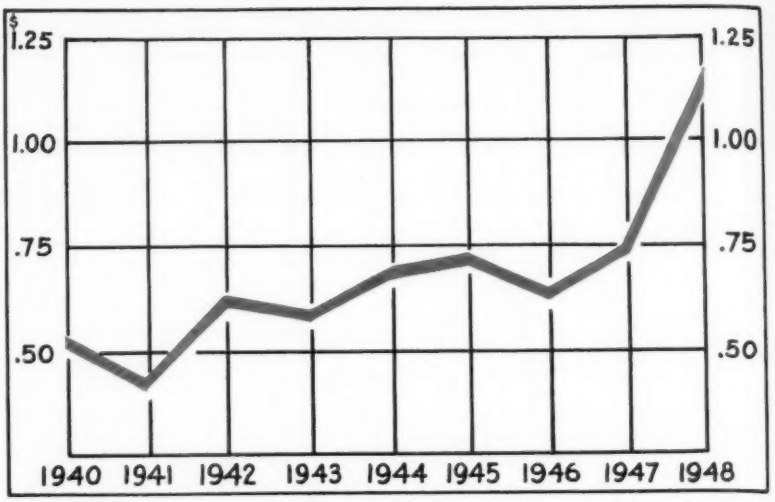
Do mid-western cooperative leaders have any gripe because blended returns to Northeastern producers are maintained at an artificially high level? Again, in my opinion, the answer to this question is in the negative. The uniform returns to ....ew York pool producers, beginning in January of this year have de? clined almost exactly as much as he return to mid-western producers. In other words, unless returns to Northeastern producers were out of line with returns to mid-western producers before the price decline which set in last summer they are not out of line with those prices today. Expressed differently, if the higher returns to Northeastern producers in the years 1940 through mid 1948 correctly represented the additional costs of producing milk in the Northeast as well as the additional costs of complying with sanitary regulations, then the higher returns today continue to correctly represent such additional costs.

The Big Question Is —

This somewhat superficial discussion of the relationship between Northeastern Class I prices and the prices for milk for manufactured dairy products does lead to a more fundamental question. And that is, "How long can we have pricing programs in the Northeast which completely ignore dairy products prices or the value of milk for other uses."

Looking back over the last 14 years of milk marketing regulation by the Secretary of Agriculture leads me to the conclusion that there are trends and fashions in regulation even as there are in women's styles. The "New Look" in fluid milk prices today is the trend away from the use of manufactured dairy products prices as the basis for pricing fluid milk. This "New Look" is most boldly and dramatically illustrated in the reports of the Boston and the New York Milk Shed Price Committees, both of which recommended complicated formulas which studiously ignored the prices of milk for manufactured dairy products. Maybe I'm still wearing the short skirts of yesteryear but I have the feeling that time and further experience will show that it is a mistake to try to price Class I milk without regard to prices of milk for other uses.

NEW YORK BLEND PRICE EXCEEDS CONDENSERY PRICE 1940-1949



The attempted justification for this disregard of manufactured dairy products has well been expressed by Mr. Forest of the Dairy Branch when he said, at Madison, Wisconsin, on April 22nd of this year that "the formula will maintain a relationship over a period of several years between the Class I price and manufactured dairy product prices. Since dairy product prices and the general level of prices move together over a period of several years, a relationship between the fluid milk price and the manufactured dairy product price will be maintained."

It's always difficult for an amateur like myself to argue with a professional like Mr. Forest, particularly when the professional is making sweeping predictions which can probably be substantiated to some extent by historical analysis. But there are some factors which a general statement of this sort ignores. I list these factors and in doing so admit, a little bit ashamedly, that most of what I am about to say has been much better said by Ed Vial of the New York Milk Dealers' Association.

In the first place, in both the Boston and New York pools there is a large volume of milk which is priced directly on dairy products. All Class II milk in the Boston pool and everything from fluid cream in the marketing area to Cheddar cheese and skim milk in the New York pool are priced directly on manufactured dairy products. Nearly 42% of the New York pool milk and 35% of the Boston pool milk has been so priced in the nine years 1940-1948. In the flush seasons, of course, this percentage is considerably higher and in the short season considerably lower. In other words, during the great majority of the time, extremely significant quantities of milk in these two pools are priced on dairy products.

Secondly, the price for milk sold out of the New York pool for fluid use in markets not regulated by the Secretary is fixed at 20c over the uniform price. This means, since the uniform price is affected so vitally by the prices for manufactured milk, that much of the milk in the secondary markets in the Northeast is directly related to manufactured milk prices.

Milk from Unregulated Plants

Throughout the Northeast there are tremendous quantities of milk sold in fluid form from plants not subject to regulation by either the states or the federal governments. Practically all of this milk is purchased from producers at a price directly related to either the Boston or New York uniform price. Here again, therefore, we find large quantities of

(Please turn to Page 55)

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1500 HEAR KULLMAN ATTACK POLITICS IN MILK

Milk Industry Foundation Choses T. K. Hamilton as President for Coming Year — Hot Competition in Ad Contest

WHILE PALM TREES gave the lie to weather reminiscent of Chicago and New York rather than Southern California more than 1500 dairy men from all parts of the United States gathered at Los Angeles last week for the 42nd annual convention of the Milk Industry Foundation. The convention quickly proceeded to elect T. Kline Hamilton, Diamond Milk Company, Columbus, Ohio to head the Foundation for the coming year and then settled down to the task of absorbing the ideas expounded by some 80 speakers who appeared on the three day program.

Opening gun in the elaborate conclave was fired by retiring president F. X. Kullman, Bowman Dairy Company of Chicago, who declared that "Milk is still being booted around too much as a political football, which reduces consumption, hurts farmers, and damages an industry that is one of the country's top economic assets."

Mr. Kullman pointed out how farmers, workers and distributors are improving methods of supply and distribution, declaring that milk production per cow is now at the highest level in history.

He also outlined industry plans for sales training for employees of milk companies as a means of increasing milk consumption. Industry-wide sales training is being introduced which will enable milkmen to have a greater knowledge of the nutritional values of the products they sell to the housewife.

The speaker urged members who represented every state and many foreign countries in which the Foundation has members to take a more active part in spreading knowledge of our system of business as a means of combatting groups who would destroy U. S. methods of free operation.

Far Pastures Not So Green

Other speakers on the convention program included movie stars Pat O'Brien and Leo Carrillo plus a glittering collection of prominent government and business figures connected with the dairy industry. Dr. Leland Spencer, Cornell University, discussing the milk industry in other countries pointed out that "Even though the United States milk industry is subject to many controls, it enjoys much more freedom than in Great Britain and in other countries of Western Europe". Dr. Spencer's observations were based on a three month study of dairy conditions in eleven European countries during the past summer.

"In none of the countries of Western Europe does the quality of city milk supplies equal or closely approach that of the more advanced sections of this country," Dr. Spencer said. He cited

T. KLINE HAMILTON
Succeeds F. X. Kulman as new President of Milk Industry Foundation

cattle diseases and war ravaged plants as the two most immediate problems confronting the dairy industry in Europe but declared that tight governmental regulations presented another difficult problem.

Milk as a factor in the favorable development of international relations was discussed by Grover D. Turnbow, Dairy Consultant for the United Nations, who is associated with the International Dairy Supply Company of Oakland, California. Mr. Turnbow, who in 1946 put into operation a new American type milk plant in Mexico City which President Aleman of Mexico praised for the great improvement in the milk supply, also has been engaged in establishing milk plants and American type milk operations in the Far East and many European countries.

Mr. Turnbow told about his work in Europe on the United Nations Child Feeding program which has furnished food to more than 4 million undernourished youngsters and mothers. He said that under the new United Nations program, France will have some 21 pasteurizing plants modeled after the U. S. milk plants.

Ad Contest Popular

Chief interest advertising competition was centered on newspaper advertising in three classifications: 1. Newspaper advertising for fluid milk in cities of 250,000 and above, won by Ewing Von Allmen Dairy Co., Louisville, Kentucky. 2. Newspaper advertising for fluid milk in cities of under 250,000, won by Progressive Dairy Co., Racine, Wisconsin. 3. Newspaper advertising for milk by-products including cream, buttermilk, chocolate drink, cottage cheese, and others, won by Borden Company, Chicago, Illinois. Other winners included Borden's Farm Products, New York, Store Cards and Posters; Bowman Dairy Company, Chicago, Illinois, Street Car Cards; Dairyland Division of Fraser Valley Milk Producers Association, Vancouver, British Columbia, Outdoor Posters; Superior Dairies, Austin, Texas, Wagon Cards; Diamond Milk Products, Columbus, Arden Farms Co., Los Angeles, Fraser Valley Milk Producers Association, Vancouver, Borden Company, Chicago, and Brock-Hall Dairy Company, Hampden, Connecticut, for Circulars.

Speaking on employee relations, A. C. Merrill, Head of Salt Lake City's Cloverleaf Dairy advised that "If management will consider employees as associates a lot of differences can be overcome and better methods of operation will result."

"Cooperation between management and employees is one of the most important subjects in any business today", Mr. Merrill said, "and building full cooperation means doing a better job as we have learned in the milk industry.

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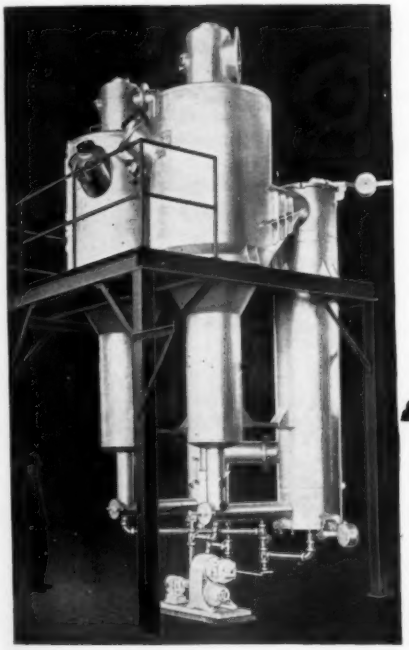

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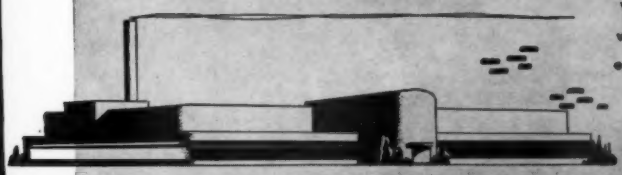

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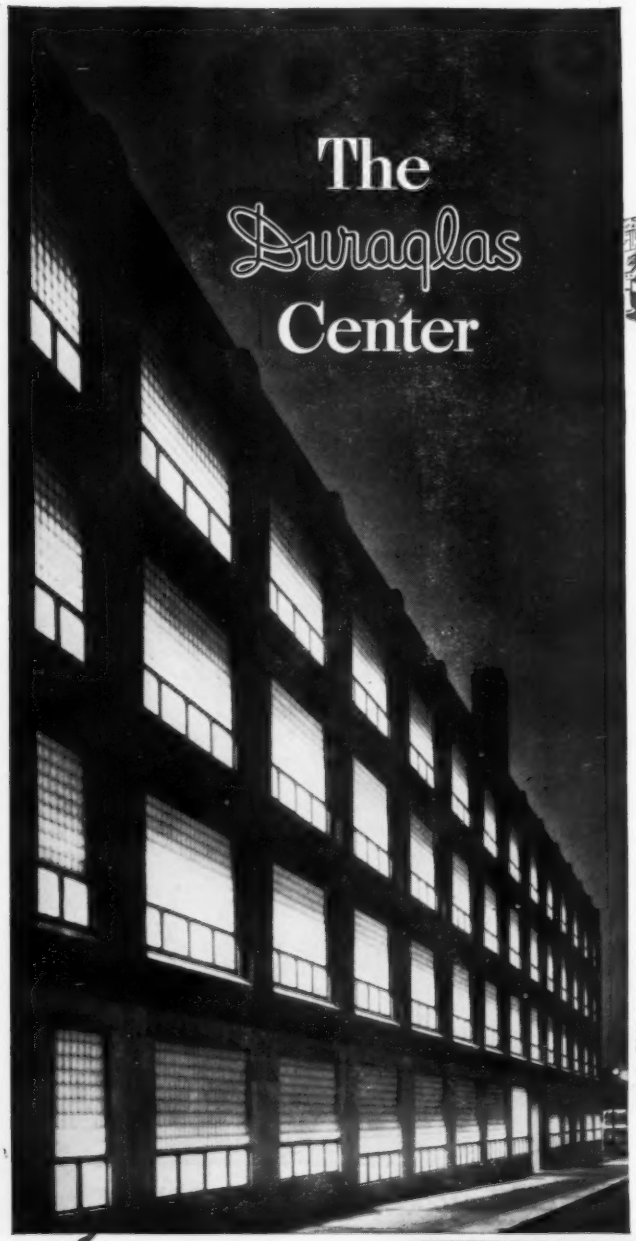

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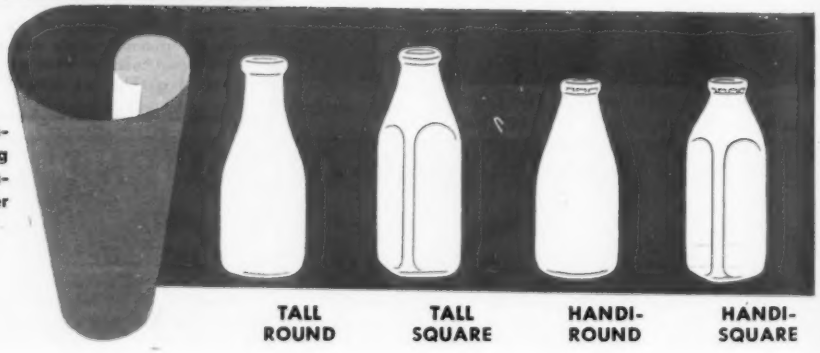

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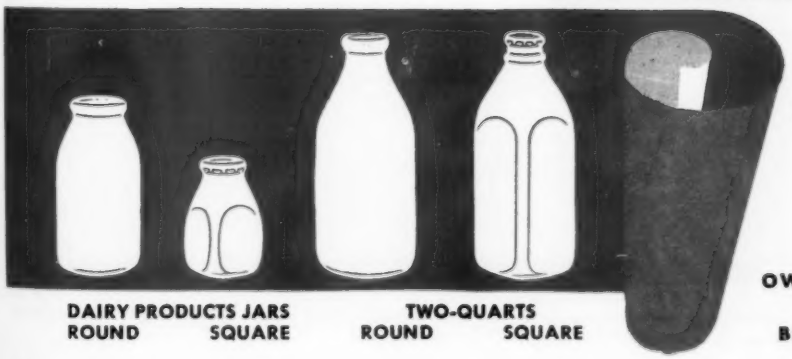

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ERIE COUNTY HEALTH PROGRAM

A New County Board of Health Is One Community's Vigorous Answer to the Problem of Sanitary Control

By **ETHELYN WELLER**

Universal Trade Press Syndicate

THROUGH THE YEARS as cities and towns in America have become increasingly health conscious milk and all dairy products have received more and more attention. This has led to established practices of careful examination of cattle, dairies, retail outlets and laboratory tests of milk and other products.

At first this was handled a little carelessly, but as the public began to realize the importance of supervision it insisted on this health protection and various laws were enacted by state and local authorities enforcing these ideas on sanitation and cleanliness.

Cities and some large towns set up bureaus to take care of health problems. These were handled in a variety of ways, usually in a city in connection with a regular Health Department. In the smaller towns and villages, however, this was left to the local health officer, often an already over-worked local physician, who gave it rather scant attention.

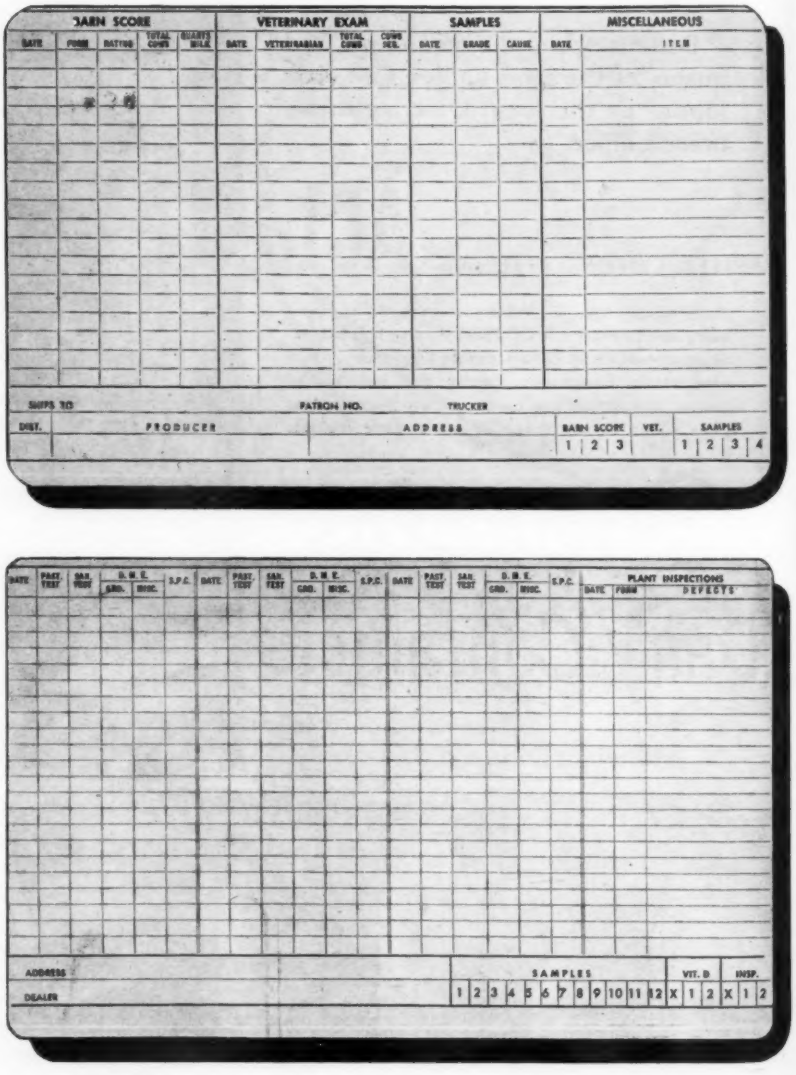
Recently several localities have become actively interested in this subject to the extent that new measures have been put in force. One of the best of these is the new County Board of Health for Erie County in New York State.

Erie County has reorganized its Board of Health under the Board of County Supervisors and appointed Dr. Madison as Commissioner of Health. Previously the city of Buffalo had had its own Department of Health and each town and village in the county had had its health officer. While this county had been exceptionally well safeguarded under this system it was felt that it was not good enough.

On January 1, 1948, the new set-up was put into effect and at first the Health Department followed the course set up by its predecessors. Careful study was made of the situation that a better system might be worked out. The result was that on October 1, 1948, a new Bureau of Restaurants & Food Sanitation was organized as a part of the Health Department, under Dr. Madison. This Bureau included the old Bureaus of Milk, Food and Meat Controls all under one head.

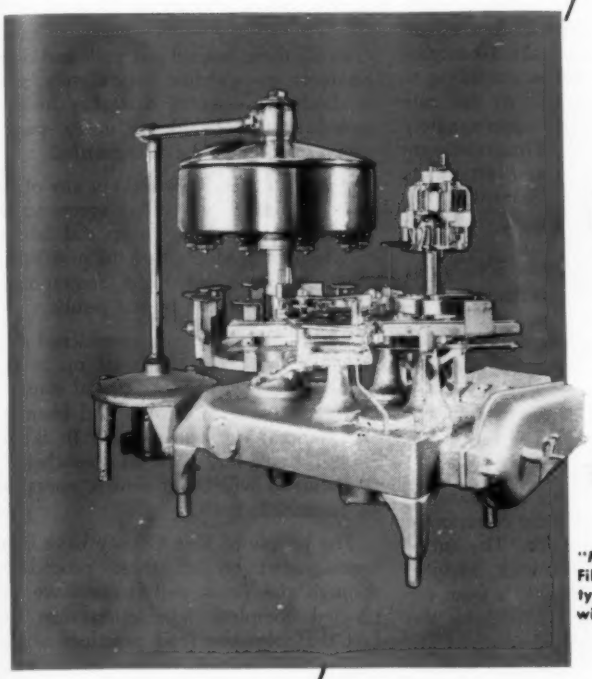
Bureau Adequately Staffed

Formerly these Bureaus had overlapped and were always under-staffed. Today, under the new system, the Bureau is adequately staffed and equipped. It has an exceptionally fine county laboratory in the Buffalo City Hall, where expert chemists and bacteriologists work together with inspectors to give Erie



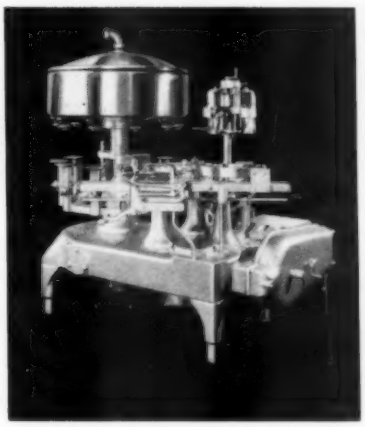
Record cards such as these enable health authorities to keep an accurate account of the inspection program. Upper card is for producers, lower card for plants.

MEET THE *New* 400 "MILWAUKEE" FILLER-CAPPERS!



Cherry-Burrell's "Work-horse" Line for Heavy-Duty, High-Volume Production

"Milwaukee 400" Gra-Vac Filler-Capper. 10-valve type shown; also available with 16 or 20 valves.



"Milwaukee 400" Gravity Filler-Capper. 10-valve type shown; also available with 16 valves.

Here is a new line of trendmaking filler-cappers—meeting the most rigid sanitary requirements and available in a broad range of high production capacities. The "Milwaukee 400's" are true "work horses"—rugged 10, 16 and 20-valve machines for filling 30 to 120 bottles per minute on a man-hour and milk-saving basis. Many of their new mechanical and sanitary features have been available on only the most expensive deluxe fillers—look them over and discuss them with your Cherry-Burrell representative.

A FEW OF THE FEATURES YOU'LL LIKE ABOUT THE 400'S

- **Streamlined Sanitary Design:** Exclusive "clean bowl" design allows complete removal of every valve part. Easiest-to-clean bowl on any filler! Fully rounded, sloping contours are self-draining and quick-drying.
- **Uniform, Dry-cap Filling:** Gra-Vac 400's have new patented Gra-Vac diaphragm filling valve—simple, sanitary, easy to take apart and clean. Adjustable to any desired filling level. Gravity 400's have new, extremely accurate, patented, diaphragm-type uniform filling valve.
- **Twin-Spring Lifters:** Assure smooth operation and long life. Lifter table is a large spoked wheel for free draining and with all parts and areas easily accessible for cleaning.
- **Handles all standard** ½ pint to 2 qt. round or square bottles. Also conical paper bottles. Accommodates all popular style cappers.

SEND FOR BULLETIN!
Get the whole story now on the new "Milwaukee 400" line. Use this coupon.

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General Sales and Executive Office:
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Milk and Food Plant Equipment and Supplies
FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

trendmaker in a great industry

Cherry-Burrell Corporation
Dept. 102, 427 West Randolph Street, Chicago 6, Ill.

Send copy of "Milwaukee 400" Bulletin.

Name .....

Firm Name .....

Address .....

City ..... Zone .... State .....

County as near a perfect score on its milk and dairy products as it is possible to get.

All work for the city of Buffalo and the twenty-seven towns of the county is coordinated under one capable head with no more duplication of effort, with a better job done and less money spent. On July 1, 1948, Carl S. Springstead of the New York State Health Department, formerly a Director of Sanitation in Rochester, N. Y., came to Buffalo and it was due to his careful work that the new Bureau of Restaurants & Food Sanitation was set up. Under his system regualar examinations are made of all cattle, milk plants, distributors, institutions and restaurants and the reports listed in a specially arranged file.

There are 4,800 producers in Erie County. Each has a white card in the files on which are records of barn scores, physical check-ups of cattle, and chemical and bacteriological analyses of milk samples. Normally there are three barn scores, one physical, and four milk samples reported each year from each producer. The results if satisfactory are recorded on the cards in black ink; if not satisfactory, they are recorded in red ink and the producer is notified that he must conform to the law or stop selling milk and other dairy products. Inspectors then watch these producers very closely.

Check Every Operation

Mr. Springstead stressed the importance of properly operated milk plants where an inspection covers every phase of operation. This includes a thorough visual inspection as well as chemical and bacteriological tests of of all products. These inspections are made twice a year under normal conditions, oftener when necessary. They mean that an inspector is at a plant in the early morning before it opens and every operation is checked from that time through until the plant closes at night – equipment is examined; every step is watched in handling, pasteurizing, bottling, labeling and delivery of all products; maintenance practices are noted and habits of cleanliness of employes. In addition, samples of milk and all other products – milk, cream, milk drinks, etc.,– are taken once a month and subjected to exhaustive laboratory tests. Plants putting out Vitamin D milk products are given special attention. Special file cards are also used for this on which are noted the number of samples taken, record of complete check of the plant and the Vitamin D records.

Distributing outlets such as retail stores operate under a sanitary permit issued only when the rigid requirements of the Health Department are met, and the permit covers the handling of all foods. Violators are quickly spotted and dealt with.

Ten Inspection a Day

In Buffalo there are 17 districts, with 700 establishments where foods are handled. Inspectors try to make 10 inspections a day, but this varies according to the establishments visited. At this rate each inspector averages approximately 2,200 inspections a year. These visits are made, normally, to stores and restaurants three times a year. They consist of the collection of samples of foods handled; careful examination of all glassware, cutlery and other dishes; in restaurants a further check is made on dish-washing equipment and practices, sterilization methods; garbage disposal and all other factors that make up the sanitation picture. These visits are reported in detail on cream colored cards, there being one in another special file for each establishment.

Hospitals and all county and state institutions also come under the direction of the County Board of Health. The entire expense of these institutions' maintenance amounts to $2,000,000 a year, for which the county is reimbursed by the state. Here, too, rigid examinations are made of kitchens as to handling, storing, preparing, and serving of foods, as well as kitchen practices such as dish-washing, sterilization and general cleanliness.

Free care is offered all tuberculosis patients and special emphasis is placed on enforcement of all sanitary requirements for food handling in institutions for this type of patient.

In all these inspections milk and dairy products are watched very closely, as it is absolutely essential that they be protected as the health of every person using them must be safeguarded.

Any institution in Buffalo or any of the towns of Erie County has access to inspectional services or to special laboratory tests of products, and the new Board of Restaurants and Food Sanitation is being well accepted by the public.

So important is milk considered that it is the first item to be set up in the special files and to have special routines worked out for inspectors and chemists and laboratory technicians. It is expected, however, that all branches of this Bureau will be in similar operation by January 1, 1949.

The people of Erie County have been kept posted on all these procedures through the press and many have expressed complete satisfaction over the fact that now the food practices of the county will be safeguarded as far as it is humanly possible to do so.

"I love everything about it except the architecture!"

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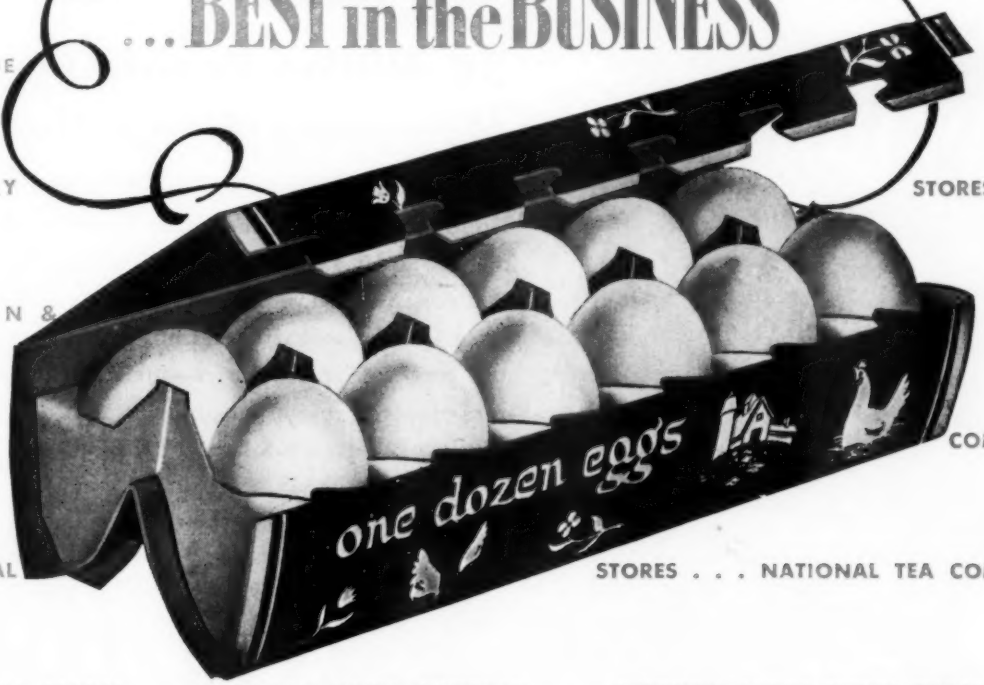

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Pure-Pak advertisements in The Saturday Evening Post, Good Housekeeping and Better Homes & Gardens promote the sale and use of convenient, sanitary, safe-to-handle Pure-Pak containers! Every month, over 34 million people read these leading magazines. Among them are *your* customers and prospective customers—including owners and managers of stores, restaurants, hotels, factories, cafeterias, transportation lines, schools and hospitals.

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A choice of many excellently prepared newspaper ads and attractive sales literature *imprinted with your name and featuring illustration of your Pure-Pak container,* are available for use in identifying *your* milk with the big Pure-Pak National Advertising Program.

Included among this valuable sales literature are (1) Folder for milk promotion on wholesale routes; (2) Consumer folder for distribution in stores, food shows, as milk route hand-out and for mailing; (3) Bottle or doorknob tag as new business getter.

Are *you* awake to the sales building opportunities of selling *your* milk in Pure-Pak. *Your milk* is the big feature in all Pure-Pak advertising! Write for complete details today!

For Your Convenience
(YOUR NAME HERE)
also provides complete milk service in Pure-Pak
YOUR PERSONAL MILK CONTAINER
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XUM

Wearing the smile of victory the Champs dig in. Winners in the collegiate judging contest at Los Angeles, the Mississippi State team is from left to right: Dee Graham, Coach F. H. Herzer, Sam Swett, and Jack Stanley.

Mississippi State Wins Student Judging Contest

Kansas State, Mississippi, Minnesota, Iowa Score Triumphs In Products Test — Connecticut Second in All Products

THREE HOT operators from Mississippi State College named Sam Swett, Jack Stanley, and Dee Graham, skimmed the cream off the 33rd Annual Collegiate Students International Contest in Judging Dairy Products. With team first, in All Products and Cheese the lads from "Ole Miss" were the class of 18 teams from coast to coast who battled it out in Los Angeles' Golden State auditorium Sunday, October 23, for eighteen hundred dollars in prize money plus an impressive assortment of cups and medals.

Going into the donnybrook a favorite by virtue of their triumph at the Eastern States Exposition, taste bud experts from the University of Connecticut were relegated to second place as a result the Mississippi victory.

Herb Ruggles of Iowa turned in the best individual performance of the contest. Although he failed to take a first in any of four products judged he was so consistently close to the top that his score in all products was enough to give him top honors. Jack Stanley of Mississippi sampled himself into second place on all products with Russ Moe of Minnesota taking third money.

New England, the South, the Mid-West and the North country were all represented with victories in individual products. Russell Moe of Minnesota added to his stature and his hardware with a first in butter. Sam Swett showed his heels to the pack when it came to cheese by beating out his teammate, Jack Stanley for the number one spot. Roger Hunt of Connecticut deprived Fort Knox of several ounces of gold with his tri- mph in Ice Cream while Jim Sherrod gave Kansas State supporters something to shout about with his great perform- nce in milk. First, second, and third places in the individual products were distributed as follows:

Milk – Winning team was Kansas State. Gold Medal to J. Howard Sherrod, Kansas State; Silver Medal to Gene D. Lower, Ohio State; Bronze Medal to Robert K. Wight, Iowa State. Medals in milk are annually awarded by Milk Industry Foundation.

Butter – Winning team was University of Minnesota. Gold Medal to Russell J. Moe, University of Minnesota; Silver Medal to Raymond Otto, University of Minnesota; Bronze Medal to Herbert Ruggles, Iowa State. American Butter Institute awarded these medals in butter judging.

Cheese – Winning team was Mississippi State. Gold Medal to Sam L. Swett, Mississippi State; Silver Medal to Richard Jack Stanley, Mississippi State; Bronze Medal to Dee R. Morgan, Utah State Agricultural College. These medals were presented by National Cheese Institute.

Ice Cream – Winning team was University of Iowa. Gold Medal to Roger W. Hunt, University of Connecticut; Silver Medal to Herbert Ruggles, Iowa State; Bronze Medal to Harold Ramsey, Kansas State. These medals are awarded by International Association of Ice Cream Manufacturers.

Record of Winning Teams

By its decisive victory in Sunday's international contest, Mississippi joined the ranks of the three highest all-time winners in the famous judging event. (The other two are Iowa State and Ohio State.) Her entry Sunday marked the 18th time that Mississippi teams have entered the contest. The awards given her team last night gave Mississippi this record of winnings: Fellowships—8; Cups —11; Medals—23.

Participating colleges in this year's classic were: University of California at Davis, University of Connecticut at Storrs, University of Idaho at Moscow, University of Illinois at Urbana, Iowa State College at Ames, Kansas State College at Manhattan, University of Massachusetts at Amherst, Michigan State College at East Lansing, University of Minnesota at St. Paul, Mississippi State College at State College, New Mexico College of Agriculture & Mechanic Arts at State College, University of Nebraska at Lincoln, Ohio State University at Columbus, Oklahoma A & M College at Stillwater, Texas A & M College at College Station, Texas Technological College at Lubbock, Utah State Agricultural College at Logan, and State College of Washington at Pullman.

Product judges were: for milk, Dr. R. Whitaker of National Dairy Research Laboratories, Baltimore; for butter, Dr. N. E. Fabricius of Ladysmith Milk Producers' Coop. Association, Wisconsin; for cheese, H. L. Wilson of Kraft Foods Co., Chicago; for ice cream, J. Hoffman Erb of Borden's Dairy and Ice Cream Co., Columbus, Ohio. Contest Superintendent was C. J. Babcock of the U. S. Department of Agriculture.

BOTTLE MAKER for the DAIRY INDUSTRY

Ever since Dr. Hervey D. Thatcher invented the first glass milk bottle — 65 years ago — Thatcher has been the dairy industry's "bottle maker". Thatcher Glass has helped to speed the progress of the dairy industry by producing sanitary glass milk bottles that are better designed, stronger and lighter in weight. The glass milk bottle is an important factor for economical distribution of fluid milk . . . bringing pure wholesome milk packaged the way the customer wants it — and at lowest possible cost.

Only because of Thatcher's constant improvements in bottle manufacturing methods has it been possible to supply the exacting milk bottle requirements of the dairy industry. Dr. Thatcher's original hand-blown glass milk bottle weighed about two pounds and cost more than 10c apiece; modern, machine-made streamlined Thatcher Glass milk bottles weigh and cost only half as much as the original glass milk bottle, because of a series of triumphs in bottle-making skill and engineering-design. Whatever type glass container has been needed by the dairy industry, Thatcher Glass has produced it.

The milk bottle to help you keep your dairy ahead is now being made by Thatcher Glass. Ask your Dairy Supply Jobber to furnish you Thatcher milk bottles or write direct.

THATCHER GLASS

MANUFACTURING COMPANY, INC.

Elmira, N. Y.

Producing and Selling Headlines Co-op Milk Producers Sessions

National Federation To Hold 33rd Gathering At New York, November 7-10 — Secretary Brannan, Senator O'Mahoney To Speak

WITH A HOST of prominent speakers from both within and without the dairy world, the National Cooperative Milk Producers Federation will hold its 33rd annual convention in New York, November 7 to 10, to formulate its policies in the light of current and potential problems confronting dairy farmers.

Included in the list of guests to appear are Secretary of Agriculture Charles F. Brannan, Senator Joseph C. O'Mahoney of Wyoming, Warren F. Whittier, Chairman of the Board of the Federal Reserve Bank of Philadelphia, H. E. Babcock, former Chairman of the Board of Trustees of Cornell University, and the Honorable Chase Going Woodhouse, Representative in Congress from Connecticut.

To Review Economic Picture

During the four convention days at the Statler Hotel in New York City, there will be four general public sessions, six special conferences, two luncheon-meetings, a delegates business session, and the annual banquet. The opening general public session on Tuesday, November 8, will review the entire economic picture, followed by an analysis of the production and marketing outlook for dairy products in particular.

This theme will prevail throughout the two general sessions on Wednesday, which will feature detailed discussions of the problem of surplus in fluid milk markets, and stabilization problems in the pricing of manufactured milk products. Other subjects before the general meetings will include "Holding and Building Membership," and "Anti-Trust Legislation in Relation to Farmer Cooperatives."

Public Relations For Co-ops

Starting off the prelimary convention sessions on Monday afternoon will be a conference on the public relations problems of dairy cooperatives – the first in a series of three. The other two conferences in this series will be held on Tuesday and Wednesday. On Monday evening there will be three concurrent conferences on Legislation, Young Co-operators' Activities, and Techniques of Dairy Cooperative Publicity.

The general public session on Tuesday will be called to order by John Brandt, President of the Federation, and will feature Warren F. Whittier's address on "The Economic Picture." Prior to this address, Charles W. Holman, Secretary of the Federation, will give his annual report. The session will conclude with discussions of "The Dairy Outlook" by Neal Waterstreet, vice-president of plants and production for the Borden Company, and Dr. E. W. Gaumnitz, executive secretary of the National Cheese Institute.

DUTCH HONOR W.H. RIDDELL

DR. W. H. Riddell, head of the dairy and animal husbandry department at the University of Vermont, recently was honored with the eight point blue and white cross of the Netherlands for service to the country and the royal house.

On behalf of Queen Juliana of The Netherlands, Dutch Consul-General Dr. Willem Cnoop Koopmans bestowed the Order of Orange Nassau with rank of Commander on Dr. Riddell, October 1, in New York City.

In presenting the award, Dr. Koopmans said, "Dr. Riddell contributed highly to the reconstruction of the damaged fields, the recovery of The Netherlands and to the development of international agricultural relations.

"He also was in charge of furthering the agricultural interests of Indonesia, especially the recovery and development of copra production in relation to the world-wide need for fats and oils.

The Tuesday luncheon will hear Leslie C. Mapp, general manager of the Miami Valley Cooperative Milk Producers Association, and W. S. Moscrip, Federation executive committeeman, St. Paul. They will speak, respectively, on "Control of Production and Price in England" and "The Foot and Mouth Disease Situation in Mexico." The afternoon's general public session will feature the address by the Honorable Charles F. Brannan.

This will be followed by a conference upon holding and building membership participated in by G. A. Knipp, manager, Equity Dairies, Inc., Lima, Ohio; Ernest C. Strobeck, executive committeeman, Dairymen's League Cooperative Association, Inc.; Glenn G. Summers, secretary-manager, Nashville Milk Producers, Inc.; G. A. Taylor, secretary-manager, Dairymen's Cooperative Sales Association, Pittsburgh; D. H. Kellogg, manager, Twin Ports Cooperative Dairy Association, Superior, Wisconsin; and L. F. Friend, manager, Mid-South Milk Producers Association, Memphis.

Senator O'Mahoney On Anti-Trust

The general public session on Wednesday morning will be devoted to "Surplus Problems of Fluid Milk Markets", after which Senator O'Mahoney will address the delegates on "Anti-Trust Legislation in Relation to Farmer Cooperatives."

The surplus problem discussion will be led by W. P. Davis, general manager, New England Milk Producers Association, Boston, and will include as speakers Rich L. Duncan, secretary-manager, Falls Cities Cooperative Milk Producers Association, Louisville; Howard F. Simmons, secretary-manager, Michigan Milk Producers Association, Detroit; John Kolb, manager, Nebraska-Iowa Non-Stock Cooperative Milk Association, Omaha; and Howard F. Selby, manager, United Farmers of New England, Boston.

The Sixth National Women's Conference Luncheon on Wednesday noon will hear outstanding guest speakers on modern nutrition. Miss Alice Kline, of *American Home* Magazine, will have as her subject "What's Cooking in Your Kitchen?" Mr. H. E. Babcock will talk on "Tomorrow's Meals", and the Hon. Chase Going Woodhouse will tell about "What's Cooking in Europe?"

The Wednesday afternoon general session will consider stabilized prices of manufactured milk products. Russell S. Waltz, general manager, United Dairymen's Association, Seattle, will act as discussion leader of a group including E. J. Ryger, manager, Mid-West Producers Creameries, Inc., South Bend; Leo Benson, manager, State Brand Creameries, Inc., Mason City, Iowa; and Otie M. Reed, Federation Economist.

The banquet on Wednesday evening will hear the annual address of the President, John Brandt. The policy-enacting session of delegates on Thursday morning will conclude the convention.

Butter Sales Roundup!

This ad means business—BUTTER BUSINESS! Note the background of BUTTER—each pat plainly marked BUTTER! Note the appetite appeal—and realize this is only the keystone of a NATIONWIDE BUTTER SALES DRIVE. More than half a billion sales impressions in a nation-wide merchandising mobilization this fall to sell BUTTER. ADA advertising . . . related food advertising . . . retailer advertising . . . and widespread food page publicity! From every angle this ADA BUTTER CAMPAIGN is pointed to sales!

BUTTER
Spread on the Butter!
NO DOUBT ABOUT ITS GOODNESS
O-o-o-oh! You know it's good. Golden BUTTER on a crispy brown waffle! There's goodness—inviting, tasteful goodness—morning, noon or night! And so simple, too. All you need is your favorite pancake mix. Add milk—and bake to a golden brown. Top with BUTTER—spread it—then add maple syrup!
On waffles . . . pancakes . . . toast, vegetables, bread . . . in cooking, baking, frying . . . BUTTER always gives that tempting, matchless flavor. Nothing can take its place. BUTTER is the finest in foods . . . the concentrated goodness of the four pints of cream required to make each pound. With its golden color, smooth texture, distinctive flavor, ONLY BUTTER CAN BE BUTTER. Rich in natural vitamins, high in food energy, matchless in flavor . . . there can be no doubt about its goodness. It makes all food taste better—so spread on the BUTTER . . . America's symbol of good living!
FIRST IN FOODS
AMERICAN DAIRY ASSOCIATION
20 N. Wacker Drive Bldg., Chicago 6, Illinois
"Voice of the Dairy Farmer"

This full page, four color, American Dairy Association ad, "Spread on the Butter," appears in American Weekly, Saturday Evening Post, Ladies' Home Journal and This Week—a combination of magazine and newspaper circulation that totals 78 million sales impressions. That's two for every home in America!

AMERICAN DAIRY ASSOCIATION

20 N. Wacker Drive Bldg., Chicago 6, Illinois

"VOICE OF THE DAIRY FARMER"

Dairy products from excellent herds such as this one at Terre Haute, Indiana play an important part in the rehabilitation program.

Prison dairy operations supply a splendid therapeutic aid. In several institutions scientific agricultural training is a part of the corrective effort.

MILK GOES TO JAIL

Whether at Alcatraz or Leavenworth, Joliet or Alderson Men and Women in Federal Prison Receive Their Full Ration of Fresh, Whole Milk

By **JAMES V. BENNETT**
Director, U. S. Bureau of Prisons

as Told to

PETER FRABICIUS
Universal Trade Press Syndicate

LEAVENWORTH 284 never committed a crime. Alderson 341 is spending the rest of her natural life at the Federal Reformatory for Women at Alderson, West Virginia, but she is no desperate gun moll.

In fact, these two numbered individuals, and others of their kind, are great sociological benefactors. They are the institutional and highly industrialized counterpart of the old familiar barnyard cow. They provide a basic item of the healthful human diet, and therefore play an important role in the rehabilitation program of men and women committed to our Federal penal institutions.

A sound mind needs a sound body.

To provide the elements for it for the men and women in our care – many of whom are suffering from health deficiencies of one kind or another – the Federal Prison System uses a "standard inmate ration". The formula was worked out with the U. S. Department of Agriculture and the Public Health Service and is designed to meet all human nutritional needs and to provide a palatable and satisfying diet.

Milk and milk products constitute from 20 to 25 percent, by weight, of this standard ration, depending to some extent upon the age group of the population, in every one of the 26 institutions maintained by the Federal Prison System.

Even in grim Alcatraz, where space does not permit dairy activities, the prisoners receive their full ration of fresh, whole milk. And it plays an important role there, as elsewhere, in helping to restore and maintain a basis of sound health upon which to build a reformative program.

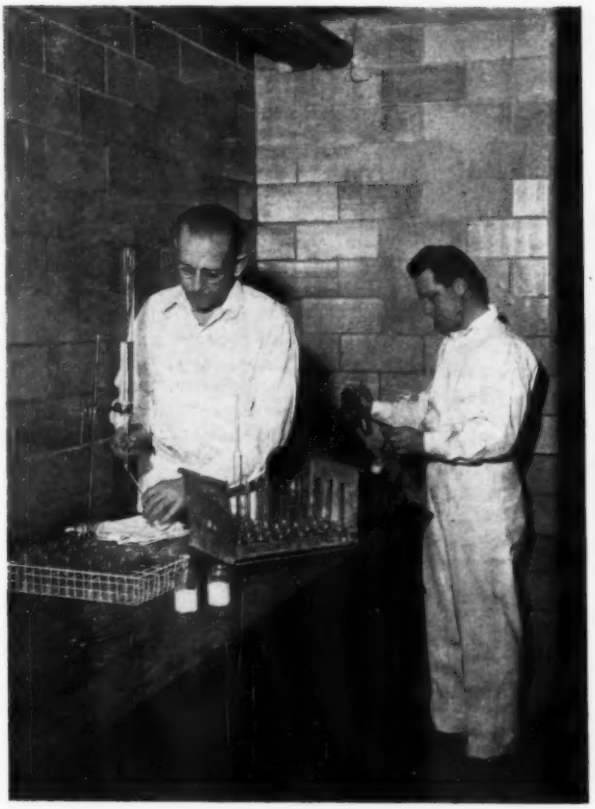
Often we are able to see marked improvement in the health of prisoners within a few weeks after commitment, and in many cases milk and milk products are a determining factor. One man, for instance, sentenced from the backwoods territory of one of the Southern states, had a bad case of pellegra on admittance to the institution. His skin was in serious condition, his abdomen distended, his legs thin and frail, and his mind beginning to show signs of deterioration. He was immediately placed on a special diet in which fresh cream and freshly churned butter figured heavily. His recovery seemed miraculous; within six weeks he appeared quite well again, and his mental condition had greatly improved. There was then some basis upon which to build his particular program of rehabilitative treatment, to the end that the conditions which had brought him to prison might not be repeated.

In another instance, a city-bred young man was suffering from a serious dietary deficiency, being unwilling to eat anything but mashed potatoes, bread, and gravy, supplemented now and then with candy bars which he bought from the institution commissary. He was finally persuaded to eat ice cream whenever it was served, and although he reached his release date before he was completely recovered, his condition did show definite improvement. The only explanation was the addition to his diet oof the food values in ice cream. This dessert, incidentally, is always acceptable in our institutions, is one of the easiest and most economical to make, and is a frequent means of providing milk for the men who do not care for it undisguised.

Believing as we do that the soundest economy lies in changing the attitudes and philosophies of the criminal so that when he returns to society, as he almost invariably does, he will no longer be a liability, we are still bound, as an agency supported by the taxpayers, to accomplish this objective in the most efficient and economical manner possible. For this reason we have, through scientific selection, breeding, and care, developed an outstanding country-wide herd of dairy stock. This activity has, in itself, been a valuable therapeutic aid. It furnishes worthwhile employment for many prisoners; and it has often been noted that working with animals in this sanitary and healthful environment has tended to restore wholesome mental and emotional perspectives and physical soundness in the men. Further, many prisoners come to our institutions from marginal farms in rural areas, and these men learn modern methods of feeding, breeding, and caring for animals, as well as the importance of the activity as a steady cash income feature. In several of our institutions, scientific vocational training in agriculture is carried on, and this has produced extremely encouraging results in equipping prisoners not only for employment in this field, but also for possible enterprises of their own when once more they enter free society.

In dollars and cents economy, it is believed that the greatest results lie in developing purebred registered high-producing herds. Holstein cattle have been selected because of their ability to utilize pasture and roughage and to produce large quantities of milk under a wide variety of climatic conditions. A uniform breed also permits the transfer of breeding stock among the respective herds. Our dairy herds, totaling approximately 700 cows and an equal number of heifers and calves as replacement stock, maintained on 17 of our institutional farms, can boast of members of some of the most famous Holstein families. All herd sires and approximately 20 percent of the females are registered with the Holstein-Friesian Association of America. Each animal registered is identified by the name of the institution, one name from each of the parents, and, usually, a specific appellation of its own. This is for official purposes only, of course. In the more informal atmosphere of the dairy itself, the animals are likely to have all sorts of picturesque titles – ranging from "Lulu" to "Gypsy Rose" – bestowed upon them by the men who work with them and to whom they frequently become something in the nature of pets.

The finest herd, however, can deteriorate or meet disaster unless the most meticulous care is exercised and the most constant watch maintained over its well being. "Bovine" has come to be a term denoting stolidity or even dullness, but cows are more temperamental than we give them credit for, and they are quickly sensitive to changes in routines or conditions of their surroundings. It may be that something happens to a cow's ego when she is provided with the right living conditions and the proper food; at any rate, she seems to respond with increased production, as though desiring to fulfill all that is expected of her. And a cow producing 15,000 to 20,000 pounds of milk a year requires and deserves comfortable quarters and the finest care.



Supervision in the dairy is supplied by trained personnel who are graduates of agricultural colleges or have other specialized backgrounds.

Our modern dairy barns incorporate features and facilities approved by the United States Department of Agriculture and commercial dairymen for economical and efficient operation. Every effort is made to maintain sanitary conditions, to protect the health of the animals, to produce clean milk, and to accomplish the whole process in the best manner and at the least expense. Special quarters and facilities are provided for calves and young stock, maternity pens, and the quarantine and treatment of sick animals, as well as for the safe care and management of the herd sires.

Barns are cleaned daily – oftener, if needed, and bedding is changed frequently. Grooming and cleaning of the cows are facilitated by clipping the hair on the flanks, belly, and udder.

All animals are tested annually for tuberculosis and brucellosis by the Bureau of Animal Industry in the United States Department of Agriculture, and infected animals are removed promptly from the herds. Periodic tests are made for mastitis and other udder infections. Each institution engages the services of a qualified veterinarian, in addition to the advice and counsel of the Bureau of Animal Industry.

Use of the balanced ration is standard practice in the Federal Prison System, and it is applied to the feeding of livestock as well as to the prisoners' diet. Most of the pasture, hay, and silage, and a portion of the grain included in the dairy ration, are grown on the institutional farms. The grain ration, ranging from 16 to 20 percent protein, depending upon the kind and quality of the roughage, is either purchased as prepared dairy feed or mixed on the farm, using home-grown grains, plus protein and mineral supplements. Each cow is fed grain according to her production and individual needs, the standard being one pound of grain for each three pounds of milk produced. This makes for maximum economical production over a long period

of time. Several cows in our herds are profitable producers at ten or more years of age.

In the 12-month period ending June 30, 1948, our herds produced 8,782,699 pounds of milk, or an average annual production rating of 12,754 pounds for each cow. The highest producing herd, consisting of 42 cows, showed an average annual production rating of 16,322.9 pounds.

All the inmates who work in the dairy are carefully selected and trustworthy. They wear clean white clothing and are provided with adequate toilet and washing room facilities. Each is carefully trained in the performance of his assigned job, and the more apt and interested are given further training. They are supervised by institutional personnel who are graduates of agricultural colleges or have had other specialized backgrounds, as well as extensive experience in the management of dairy herds.

The United States Public Health Service inspects each dairy at least twice each year and recommends needed changes in equipment and practices. These suggestions are, of course, carefully followed. Milk is tested for bacteria and cleanliness at least once each month and, as delivered to the kitchen for use, shows a bacteria count well under the equivalent for certified milk.

The actual milking is done by machine and the milk is not touched by human hands or exposed to the air throughout the entire process.

Cows Handled With Care

The cows themselves are treated with the respect due their importance in the whole proceeding. At milking time each cow is groomed to remove straw and other coarse material, driven quietly to the washing stall, and thoroughly washed with a brush and warm water. She then proceeds to a milking parlor, where the udder is again washed, this time with a weak chlorine solution, and carefully dried, fresh cloths being used for each cow. A strip cup tests the first milk drawn. The teat cups of the magnetic milkers are disinfected with a chlorine solution after each cow is milked. The production from the individual cow is collected and weighed in an overhead glass bowl and passed to the processing room through sanitary piping.

In the processing room, the milk is collected in a receiving tank and then passed through a centrifugal clarifier which removes any cells or dirt. From the clarifier, it passes to the pasteurizer, where it remains for approximately thirty minutes. It is then cooled to 40° F., or less, by means of a tubular cooler, and collected in 10-gallon cans or bottled for delivery to the kitchen. Several institutions are using milk dispensing devices which are installed in the cans at the dairy and permit serving the milk directly from the can.

All equipment is, of course, thoroughly cleaned and sterilized after each use.

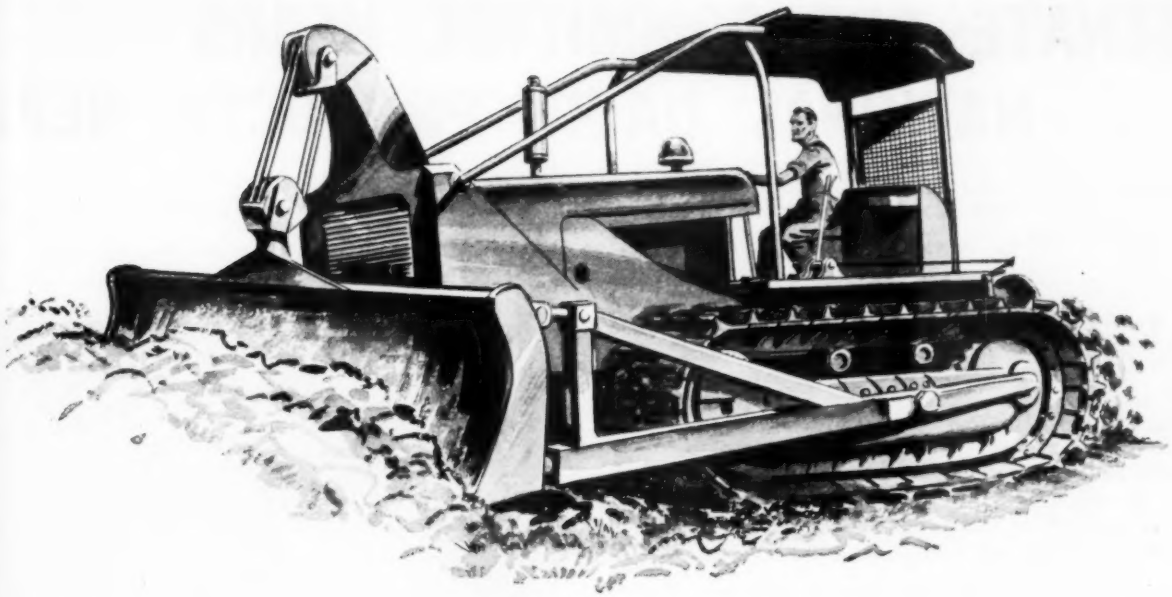
With all our scientific equipment and our modern methods, however, we are primarily dependent upon the original source of all this wealth — the cow! Whether she bears the impersonal prison number, the designation of her official registration, or the highly colorful title given her by the prisoners, she is an industrial plant of the greatest efficiency, transforming raw materials which are distasteful or indigestible to man into liquid meat which is easily assimilated and pleasing to his palate. What's more, she is something of an alchemist, and the product of her laboratory is white gold! The taxpayers of the country can well respect her for her contribution to the economy and stability of our institutions.

TEN YEARS AGO IT LOOKED LIKE THIS

OF LATE we have heard it said by some of our more pessimistic friends that the milk business is going to hell. Inasmuch as it is the policy of the *American Milk Review* to bring its readers the latest and the best on matters of current interest we propose to give the dairy industry some first hand information on the subject.

We visited Hell some ten years ago. We found it a most attractive place with no trace whatsoever of either coal or oleomargarine. It was inhabited by a substantial citizenry whose resemblance to the popular concept of hellion was no more than that shared by ordinary people. Oddly enough they are primarily concerned with skiing and fishing which they perform with surpassing skill. Outside of a magnificent view of salt water and slashing mountains the thing about Hell that impressed us the most was colorful curtains in the windows of the railroad station. There was not a cinder to be found, it's electrified.

If you have any intention of going to Hell it might be a good idea to contact the Editor of this publication. Information on the better places will be cheerfully given. Incidentally it is located on the Norwegian coast about halfway between the Northern and Southern extremities of that stalwart land.



Who says the ground's too tough?

YOU have to dig for sales nowadays; but the "paydirt" is there for the fellow or the firm who uses the right tools.

It takes a combination sales-power to hold and expand the market for dairy foods. The hard-crusted public must first be shown that dairy foods are essential to good living. The "want" must be created through deep-rooted conviction. Then comes the follow-through brand promotion, where the best man wins in open competition and free enterprise.

The National Dairy Council is the bull-dozer for the dairy industry. It does the heavy plowing that pre-sells the public on the *need* for milk, butter, cheese and ice cream. This big job is done through research; through millions of printed books, charts, posters; through movie films, exhibits and displays, professional advertising, publicity and personal contacts. These effective tools are used by NDC in winning the favor and support of consumer leaders such as dentists, doctors, nurses, dietitians, home economists, teachers, and other recognized channels of influence who pattern the food buying habits of the nation. All this paves the way for brand advertising and promotion.

And all this is made possible by the membership support of hundreds of leaders in the dairy industry, who know that this kind of resultful selling is more than a one-man job. If you are not using the many membership services of the National Dairy Council in your own sales plans, write today for full details and membership application.

As a Board Member and Treasurer of National Dairy Council, I know that every member of the entire dairy industry benefits from the good work of NDC, and therefore should support this work.

G. E. WALLIS, *President & General Manager Creamery Package Mfg. Co.*

Our company has been a sustaining member of National Dairy Council for many years. We believe in its essential program of research and education, and know that NDC membership support is a sound business investment.

L. E. HURTZ, *President Fairmont Foods Co.*

In recognition of the important job being done for the entire dairy industry by the National Dairy Council, this publication gladly contributes this space.

National DAIRY COUNCIL

111 North Canal Street, Chicago 6, Illinois

Since 1915 . . . Promoting Sales for Dairy Foods through Research and Education.

SENATE SUB-COMMITTEE HEARS NATIONAL DAIRY PRODUCTS HEAD

Van Bomel Tells Solons Raw Material, Labor, and Taxes Are Big Costs In Milk — Says Firm Did Close to Billion Dollar Business in '48

NATIONAL DAIRY Products Corporation has invested $5,000,000 in research facilities and is currently spending at the rate of $4,000,000 a year to learn more about the nutritive values of dairy products and to develop wider utilization of the by-products of farm food processing, L. A. Van Bomel, president, told a Senate sub-committee investigating utilization of farm products here today.

Mr. Van Bomel appeared at the request of Senator Guy M. Gillette (D), of Iowa, chairman of the sub-committee of the Senate Committee on Agriculture and Forestry.

"Since its founding, more than 25 years ago, National Dairy has been engaged in research directed to the very heart of the matter your committee is investigating," he told Senator Gillette. "This research is concerned with improvement in the quality of milk and milk products; utilization of dairy by-products, both for economical animal feeding and for conversion into various new products; and with investigation directed toward better understanding of the nutritive qualities of these by-products of milk and their use in human and animal diets.

"With every advance made by dairy chemists, what was formerly a waste is being turned into additional income for the farmer, and into new, improved products for the consumer. Today skim milk is worth about 40 cents per hundred pounds while 20 years ago it was practically worthless.

Work With Casein

"One of our first steps was to improve the processing of casein for use in coating paper. Later other products were developed from casein, such as industrial glues, plastics, etc. In the middle 1930's National Dairy's Research Laboratories succeeded, in digesting casein with acid to separate its constituent amino acids. The resulting product has proven a valuable aid to human nutrition. A more recent development is an enzyme digest of casein which is extremely valuable as a supplement to the normal protein diet and for medical administration in cases of stomach ulcers, malnutrition and severe burns.

"Dried whey products have been developed for the baking industry. Dried whey, which contains large quantities of sucrose (milk sugar), calcium, phosphorous and riboflavin, is highly valued in poultry feed as a health building food which increases the productivity and hatchability of eggs. Use of the natural protein, lactalbumin, which is separated from whey, has assumed importance only within the last few years. Lactalbumin contains an excellent assortment of the essential amino acids. Edamin, a hydrolysate of lactalbumin, is another pharmaceutical of ours used for supplementary human feeding and medical treatment.

"We developed a ferric lactate, an iron supplement now used in our complete baby food, Formulac. Calcium lactate is used directly as a pharmaceutical, in baking powder and in foods to enhance their calcium content. Sodium lactate is used industrially because it absorbs and holds atmospheric moisture and because of its viscosity in solution. Lactose may be fermented to lactic acid. Further refinement of lactic acid made it useful in fruit preparations to give crispness and an acid tang. Only recently copper lactate has been used for electroplating. Lactose is fermented to produce vinegar, a process developed by us. Over 1,000,000 gallons of vinegar were so produced by National Dairy in 1948. We have developed a process for re-refining an edible soya bean oil which will utilize large quantities of another great American agricultural crop.

L. A. VAN BOMEL
He Told the Senators

New Research Laboratory

"In 1948 to step-up our work in fuller utilization of dairy products, we completed two great central dairy research laboratories, one in Oakdale, L. I. and one in Glenview, Illinois. In Oakdale alone we have 41 separate laboratories in a group of buildings. We have more than 250 scientists in these work shops.

"In addition to our Oakdale and Glenview laboratories, we maintain a large experimental research farm at Danville,

Illinois, devoted to scientific feeding of farm animals. Another experimental farm is operated outside of Cleveland and still another is being developed in Iowa.

"At Danville we also produce stock and poultry feeds, using milk by-products as a base. We have been able to develop feeds for pigs, calves and poultry which reduce mortality, increase meat yield, and enable the farmer to send his stock and poultry to market sooner than he normally would do. This, of course, results in a lower cost per pound of production for the farmer. Over 125 million pounds of these dairy by-product feeds were sold by us last year.

"All of these activities are kin to the inquiry you are making. These activities cost money. They are part of the responsibility our management has assumed. Their desirability is beyond question, for they benefit the farmer, the worker and the consumer. The stability of the dairy industry depends upon just such activities as I have described. But their benefits flow far beyond National Dairy or the dairy industry."

ANOTHER NEW AMR FEATURE

More durned new things coming up than you can shake a stick at. Beginning in January Fred Degenhardt, New York architect and a specialist in dairy plant construction, will start a new feature page in the American Milk Review. Mr. Degenhardt's page will be devoted to answering your questions on problems of plant construction and maintenance. Questions should be addressed to Mr. Frederick W. Degenhardt, 31 Union Square West, New York 3, N. Y.

Replying to the sub-committee's inquiry concerning the spread between the price the farmer receives for his milk and the price the consumer pays, Mr. Van Bomel cited the figures which his company makes public in its annual reports.

"The farmer's share of the consumer's dollar for the past ten years averaged 60.22 cents," he pointed out. "In 1939 it was 50.37 cents and in 1948 it reached 63.59 cents. The money the farmer receives for his milk, therefore, is the largest single item in the price the consumer pays.

Labor Costs High

"Labor is the highest item in the spread between the price we pay the farmer and the price we receive from our customers. It averaged 16.27 cents of the consumer's dollar. Only because of technological advances in labor saving devices have we been able to keep labor costs from rising even higher, with consequent higher prices to the consumer.

"Taxes averaged 3.99 cents of the consumer's dollar. I wonder how many housewives realize that at today's prices here in Washington butter and fluid milk costing a dollar carry a tax of nearly 4 cents! These are taxes we collect and pass on to Federal, State and local governments. They are in addition to taxes the consumer pays on income and other things for which he is taxed directly. Because they are hidden, however, does not make them any less a tax on the housewife's market basket.

"The three costs I have mentioned – farmer, labor and taxes–accounted for 81.47 cents of the consumer's dollar in 1948. All other charges incident to buying, processing, packaging, rentals, fuel, supplies and transportation mount up to 15.96 cents.

"Last year our sales amounted to $986 million, a figure distorted by the inflated value of the dollar. Our net profit amounted to only 2.6 cents on the consumer's dollar. Few, indeed, are the industries that could survive and render good public service on such a small profit. In fact, it is not enough for us if we are to continue to provide the services our consumers require, and to carry on the work, so essential to farmers, workers and investors, of expanding the market for dairy products."

Producers Please Copy

Amherst, Mass.–Eight forms of carelessness cause most farm fires and result in an annual nationwide loss of $90,000,000, declared Willard A. Munson, Director of the Agricultural Extension Service in Massachusetts during National Fire Prevention Week.

The Extension Director named the eight major causes of farm fires as follows: (1) Defective chimneys; (2) Sparks on combustible roofs; (3) Inadequate lightning protection; (4) Carelessness with matches; (5) Spontaneous combustion; (6) Improper use of gasoline and kerosene; (7) Unsafe stove and furnace installations; (8) Misuse of electricity and appliances.

"Through fire farmers can lose, overnight, the profit of years of labor," Munson pointed out. "More appalling than the financial loses are the thousands of farm residents who die or suffer permanent injury in farm fires each year," he added.

"The first step in farm fire prevention is the development of a fire safety consciousness and determination to work and live safely," Munson cautioned. "When the family recognizes hazards, corrective measures can be taken."

Working in cooperation with the National Safety Council, Munson advised the following precautions to insure safety from fires:

Home dry cleaning, when necessary, should be done outside the house with a non-flammable fluid. Hot grease and fats should be handled with special care. Stoves should be polished with a cleaner not containing benzene or other flammable liquids.

The National Safety Council also advises farmers to use a "strike on box" type of match. All electric cords, plugs, and equipment should be inspected regularly. Do not confuse gasoline with kerosene. Beware of smoking kerosene stoves–white kerosene smoke burns with explosive violence when ignited. Store gasoline at least 75 feet from other buildings. Check haymows for signs of heating.

"No trouble at all, lady. Just take it and the sales slip to our refund department -- Ah, are you familiar with Boston?"

COPYRIGHT 1949 CARTOONS-OF-THE-MONTH

FIBER DRUM with Visqueen film liner. It's the answer to the dairy industry's prayer! High tensile strength, tear resistance and chemical inertness make Visqueen film-lined fiber drums perfect for shipping a wide variety of dairy products, at lower cost. Visqueen film is unaffected by acids or alkalis, extremes of temperature.

VisQueen* film drum liners revolutionize bulk shipping... save up to $50,000

USERS OF BOTH FIBER AND STEEL SHIPPING CONTAINERS HAIL IMPORTANT NEW DEVELOPMENTS

White-hot interest is now being centered by hundreds of manufacturers on a brand-new method of bulk shipping—a method that is absolutely without equal for product protection and shipping economies. One shipper reports 66% tare weight reduction—annual shipping charge savings of $50,000.

Developed by The Visking Corporation engineers in cooperation with leading converters, the new method combines the virtues of Visqueen film with either fiber drums, cartons, or steel drums—to produce a complete shipping "package" of practically limitless possibilities.

Study the examples shown here and relate them to your own individual shipping problem. It's 100 to 1 that you'll spot a clue to spectacular savings for your firm!

LIQUIDS • SEMI-LIQUIDS • SOLIDS—ALL CAN BE SHIPPED SAFELY IN VISQUEEN FILM-LINED CONTAINERS

Running the gamut from frozen strawberries to automobile undercoating, practically any bulk product can be shipped safer and more economically in containers lined with new Visqueen film-lined containers.

Savings in handling, savings in time and money are winning more and more shippers over to the new method of shipping. A glance at the figures shown on this page will tell you why!

VISQUEEN film, the radically new liner for both steel and fiber shipping containers, is a strong, clear, odorless, tasteless polyethylene film, having an unusual combination of chemical and physical properties. Chemically inert, acids and alkalis don't affect it. Won't stick to itself or products it contacts. Extremes of temperature don't bother VISQUEEN film—even 94 degrees below zero F. left it strong and flexible (Frozen food people, please note!). Waterproof and moisture-resistant, VISQUEEN film is particularly valuable for sealing pure chemicals and foods during shipment. Protects flavor and purity, does not permit foods to pick up "off" flavors or odors—yet permits products to "breathe." Has shown no tendency to allow or sustain mold growth.

RECTANGULAR FIBER CARTONS? Sure thing! Visqueen film liners are available for any size of rectangular cartons, for the convenient, low-cost shipping of dairy and other products in semi-liquid and solid form. For savings and product protection, investigate the possibilities of this revolutionary new packaging technique.

SAVINGS for steel drum shippers! Visqueen film liners used with steel drums are the perfect answer for shippers of "difficult" dairy products. Insulates them from metal, prevents reaction with metal of container. Assures 100% purity when product reaches destination. Ideal for liquids or semi-liquids. Eliminates leakage.

LOOK! NO CLEANING! No matter how sticky or messy the product shipped in Visqueen film-lined drums—drums are instantly ready to go back into service with NO CLEANING or RECONDITIONING. Just zip out Visqueen film liner. Nothing sticks to interior of drum—it's clean as new! No waste—100% product recovery.

If your shipping problem is concerned with any of these fields—you can save money and time with Visqueen film-lined shipping containers

- Powdered milk
- Dried buttermilk
- Condensed buttermilk
- Casein glue
- Whey products
- Cottage cheese in bulk
- Liquid cream
- Frozen cream
- Ice cream mixes

SAVINGS EFFECTED ON TYPICAL SHIPMENT FROM CALIFORNIA TO CHICAGO

Rate: $1.96 per 100 lbs.
Quantity: 150 containers per car

Former container tare per car.....7,500 lbs. or $147.00

VISQUEEN film-lined fiber drum tare per car.....*2,100* lbs. or *$41.16*

Total saved per car.....5,400 lbs. or $105.84

WARNING!

Do Not Confuse VISQUEEN with Ordinary Polyethylene Film

All polyethylene film is not VISQUEEN. VISQUEEN is the product of years of experience and research on the part of The Visking Corporation, pioneers in the development of this material. Only VISQUEEN has the benefit of this rich technical background. Always be sure to specify VISQUEEN Film.

VisQueen* FILM
A PRODUCT OF
THE VISKING CORPORATION
PRESTON DIVISION • TERRE HAUTE, INDIANA
*Reg. U. S. Pat. Off.

THE VISKING CORPORATION
Box A1410, Terre Haute, Indiana

Gentlemen:
YES! I want to be shown how VISQUEEN FILM LINERS can save me cold cash on every shipment.

Name .....
Firm .....
Address .....
City ..... State .....

Milk Waste Headlines New York State Sanitarians Conclave

Large Gathering At Syracuse Discusses Variety of Problems At Annual Convention — Burgwald, Webber, O'Brien Appear on Stimulating Program

WITH A NEW State law on water pollution as a jumping off place 442 members of the New York Association of Milk Sanitarians meeting in Syracuse tackled the problem of milk waste disposal. Assembled for their annual convention the sanitarians were told that good housekeeping in the milk plant begins with the treatment of milk wastes.

The legitimate use of State waters involves moral as well as legal issues, it was pointed out. Selling the waste for by-products even though it may cost ten cents per unit, sometimes proves cheaper than other methods of disposal. The present New York State water pollution law was written after exhaustive study of the problem had been made.

L. H. Burgwald, College of Agriculture, Ohio State University, Columbus, Ohio, discussed tests and related matter, such as the Sharer field test. Used because it is simple, easily run, economical, and shows results in a short period of time, the University of Ohio uses the Sharer field test for the reason that it has never found a false positive by this method. Laboratories use it in longer incubation time; 68 out of 193 increased incubation time — one even using one hour for this work.

Mr. O'Brien, of the New York State Health Department requested time in which to bring to the members' attention the new program to be held at Troy, N. Y., in training personnel in "Health Education, Bureau of Environmental Sanitation," for a course of 12 weeks.

C. W. Weber stressed Health Department aid to manufacturers in building equipment to standard. He mentioned three newly approved and accepted items, one of which was the seamless milk strainer.

On Wendesday morning a panel, consisting of the following, took over the question and answer period.

Mr. Schuyler Vorhees
Mr. Kenneth Fee
Mr. W. Tiederman
Dr. Parks
Mr. Bill Skinner
Mr. Paul Corash
Dr. Robert Holland
Dr. Lounsbury

One of the first question brought to the attention of W. D. Tiederman was a surprise development. "What is the present requirement of vestibules in new milk houses"? An amendment to the law no longer requires the use of a vestibule in New York State, Mr. Tiederman said, but proper ventilation must be provided. This is true for both state and local regulation. Vorhees though it had merit, although Pennsylvania and Jersey both rule against this practice. This brought out varying opinions. Vermont's status is based on New York's. Connecticut is partly statutory as point of entry is also covered; vestibule recommended, but not required. As a follow up on this subject Dr. Holland of Cornell was of the opinion — based on Dr. Dahlberg's work — that barn odors have no effect on the quality of the milk, different from those transmitted by the cow. Dr. Parks sustained his objection to the new amendment because of the resulting winter conditions in milk house ventilation.

New milk house plans are available through the Department of Agricultural Engineering at Cornell, with a small charge at present.

A suggestion was made, from the floor, that Public Relations be considered for the program next year.

The new officers are as given below:

Sol Pincus .....President
A. B. Quencer.....Vice-President
C. S. Leete.....Secretary-Treasurer

IT STAYS AT HOME

Only 6,503 pounds of milk from the New York milkshed were sold as fluid in other federally regulated markets last month. This was a decline of 934,090 pounds, or 99.31 percent, from the 940,593 pounds distributed in the same areas a year ago.

Sales of fluid milk from the New York milkshed to non-federally regulated markets, principally upstate New York and northern New Jersey, were up from 31,902,077 pounds in September, 1948, to 36,712,035 pounds last month. This was an increase of 4,809,958 pounds, or 15.08 percent.

Over-all fluid consumption declined from 295,129,296 to 293,188,659 pounds, a loss of 0.66 percent. The volume decline was 1,940,637 pounds.

Total farm value of last month's production is $21,897,472.20 made up of $21,106,085.49 at the uniform price, and $791,386.71 in butterfat and location premiums.

Payment at the uniform price of $4.20 per hundredweight will be made for milk testing 3.5 percent received at plants 201-210 miles from New York City.

●

MISS ZOE ANDERSON NAMED

Chicago, Ill.—Milton Hult, President of the National Dairy Council, Chicago, has announced the appointment of Miss Zoe Anderson as a member of the Department of Nutrition Service to replace Mrs. Juniata Strom Hirsch who resigned to join her husband in the medical profession.

Joining the staff on September 15, Miss Anderson specialized in human and animal nutrition at the University of Illinois for her doctor's degree which she will receive later this year. She brings to NDC five years of teaching experience in the field of Home Economics and three years of practical experience as manager of the cafeteria at the Hydrox Ice Cream Company in Chicago.

Miss Anderson's work will be chiefly with research phases of the NDC program. She will be responsible for the Dairy Council Digest, a four-page bimonthly bulletin covering findings on current research in dairy foods, reports on other current nutrition research, and assist in the preparation of data for materials used in the educational program of the National Dairy Council.

●

G. H. MATTHEW PROMOTED

Los Angeles, Calif. — Appointment of G. H. "Pete" Matthew as Western Division sales manager in charge of Carnation, Special Morning and Morning evaporated milk, and Carnation Malted Milk sales has been announced by Ralph R. Brubaker, Carnation general sales manager.

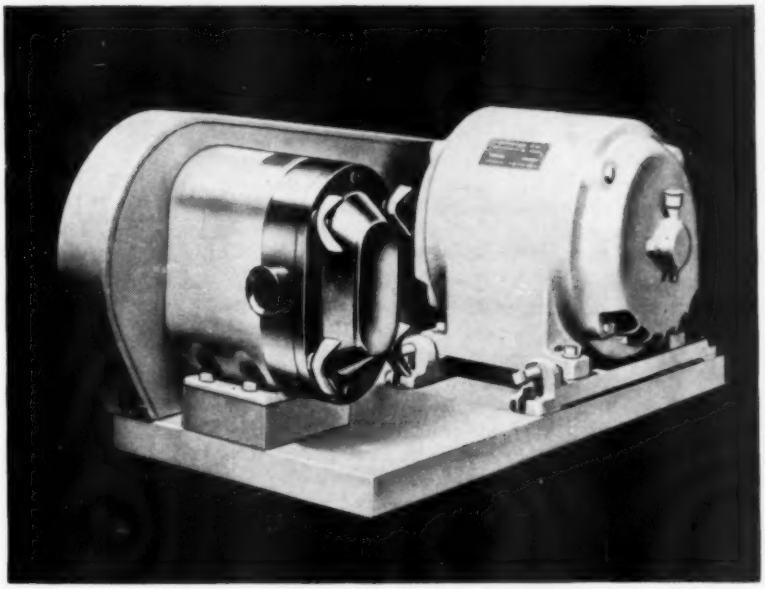
Engaged in sales work since his graduation from Cornell University in 1932, Matthew was associated with Koppers Company, Philadelphia until 1938. At that time he joined American Home Foods, San Francisco, where he served in various sales capacities and was recently Western division sales manager.

Waukesha

SANITARY PUMPS

Avoid Butterfat Breakdown and Loss . . . Will Not Disturb Cream Line . . . Protect Milk Quality and Profits

Take apart a Waukesha Pump after a day's use and you'll find it surprisingly free of butterfat! Owners know they have less "buttering up" inside a Waukesha Pump – and practically no breakdown of fat globules. (Laboratory tests confirm this.)



Think what this means to milk quality protection. You can expect the same richness, the same butterfat and cream content in your holding tank and processing that you get originally in your receiving tank. You're not rinsing valuable fats down the drain. That's why the Waukesha Sanitary Pump is so important to dairy profits. The Positive Displacement principle of operation, with its Twin Blade Impellers, produces smooth, even flow at all times, without churning, aerating recirculating or agitating the milk.

Ask your jobber about many other features of the Waukesha Pump – easier cleaning, greater sanitation, longer life under hard use. Or write direct for details.

WAUKESHA FOUNDRY CO.
WAUKESHA, WISCONSIN

Waukesha 100% SANITARY PUMP
DEPENDABLE PRODUCT OF A DEPENDABLE MANUFACTURER

YOGURT MEETING WITH FAVOR ON WEST COAST

IN THESE DAYS, when profits on many staple dairy products have in some cases reached the vanishing point, dairy specialties again assume increasing importance. For thousands of years fermented milks have been among the chief foods of the peoples of the near east. As a matter of fact, many of these people do not consume fresh milk at all – using milk only to prepare their fermented milks and cheeses. One such fermented milk – Yogurt of the Balkans, has become an important dairy food product in Europe, having been introduced commercially on a large scale after the first World War.

Yogurt has become an extremely popular dairy dish in France, Germany and in most other European countries. Before the last war, it was reported that the daily consumption in Paris alone amounted to well over 500,000 jars. American Embassy figures for the year 1947 show that after the war, when milk had again become available, the daily sales in Paris climbed to almost 300,000.

Gains in Popularity

Here in the United States the public harbors a certain prejudice to fermented, clabbered or sour milks,– more, no doubt, on account of ancient prejudice than actual dislike, yet Yogurt is steadily gaining in popular acceptance. This is especially so in California, where a special brand of Yogurt, marketed under the trade name YAMI YOGURT, is now a firmly established dairy item, available on the routes of such well known dairies as Golden State, Ltd., Borden Dairy Delivery Co., Mission Creameries, Hage's Ltd., etc. Yami Yogurt is also sold in most food stores. It is served as a milk delicacy in many of the finest restaurants. One such well known place, the Plantation, in San Francisco, serves an average of 200 jars daily.

Yami Yogurt was first introduced in Los Angeles in February, 1943. Eight months later, sales reached 80,000 jars for the month of August; and sales have continued to grow ever since, production having been expanded after the war to the San Francisco Bay area.

Analysis of Yogurt's success in California, as well as investigation of failures of past Yogurt ventures in this country point to certain reasons for both; success and failure: Milk dealers in the past have tried to sell Yogurt as a sort of medicine or high priced specialty; they have not supported the sales with constant forceful advertising, which is axiomatic with the sales of any other specialty item, whether a brand of a cigarette, coffee or ketchup; and perhaps the most important reason – they have been buying Yogurt cultures from European laboratories. These travel-weary cultures all too frequently failed to produce a good and uniform Yogurt for American distributors.

Factors in Merchandising

The successful merchandising of Yogurt in California has followed a different line of procedure. Richard Tille of Yami Yogurt explains it as follows: "Reason No. 1 for our success is the Rosell Institute Yogurt Culture that is used. In its final analysis, this is the biggest thing we have to sell. This culture produces a uniformly high quality product, that does what Yogurt is supposed to do for the body.

It's Great! — ANY WAY YOU EAT IT
Eat it STRAIGHT
– sprinkle with SUGAR
– mix with PRESERVES
– spice with NUTMEG
– sweeten with HONEY
– flavor with CINNAMON
yami yogurt

The milk you eat with a spoon! Any way you eat it, YAMI YOGURT is a taste-adventure. Try a jar a day for a month and see! See how you, too, can eat your way to health and beauty with Yami Yogurt. At leading food stores or from your Golden State or Pellissier milkman. **15c a jar**

One of the pieces of promotional material that the Yami Yogurt people have been using in California to extend the Yogurt market. Enterprise scored a bull's-eye when Hollywood discovered the product.

Reason No. 2 – we treated Yogurt as a food product for daily consumption, not as an occasional by-product. While stressing the nutritive and dietetic values of the product and its romantic Old World background, we talk about it as a food, not a medicine. We talk about Yami Yogurt as a dairy food well worth 17 cents a half pint jar, and yet carrying a very substantial margin of profit.

Reason No. 3 – before starting the campaign in Los Angeles, I had the good fortune to meet Hal Stebbins, acknowledged one of the country's outstanding advertising men. "Doc" Stebbins was "Just what the doctor ordered", for he knew all about Metchnikoff and Yogurt, having been associated in his early years with the famed Dr. John Harvey Kellogg, of the Battle Creek Sanitarium. At the time Stebbins wrote the first test-copy, sales were 13,000 jars. That was in April, 1943. Four months later, in August, sales had reached 80,000 jars. In cooperation with Stebbins' advertising organization we prepared a well-balanced advertising campaign in which

we used all primary media, such as radio, newspapers and point-of-sale material, supplemented by medical advertising and well-timed publicity."

Hollywood Likes It

Market research shows that about 80% of sales are to customers who have made Yogurt a part of their daily diet. The balance of the sales are made to people who are using the product occasionally, or to people just trying a jar or two. An unusually large number of customers report they are eating the product on doctors recommendation. The fact that most Hollywood movie stars have become Yami "addicts", or, as a newspaper syndicate reported recently, that General Eisenhower eats several jars of Yogurt on his doctors orders, and other such favorable publicity, definitely helps to stimulate interest.

Production is rather simple. The average dairy has most of the equipment. Whole milk is inoculated with the genuine Rosell Yogurt starter, bottled immediately in jars or cartons, incubated in the container for about 3 hours until coagulation occurs. The product is then chilled and is ready for sales. This Yogurt will keep about two weeks when kept refrigerated. It can be eaten as is, right from the container, or topped with jams, preserves, honey or just sugar. The product is used as a salad dressing – and, what's important to the average woman, it is considered non-fattening.

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Dry Milk Goes On The Air

Panel of Three Experts Tell Farm Audience of Product — Broadcast Carried Over 129 Stations

THE DRY MILK INDUSTRY was hailed for its contribution to the nation's agricultural economy during the September 24th broadcast of "The American Farmer" program which was carried by 129 American Broadcasting Company network stations.

The salute to the industry featured Dr. George R. Greenbank of the U.S.D.A.; Louis T. Wallach, assistant to the New York State Commissioner of Agriculture; Willis H. Gurley, a vice president of the Borden Company; and Ernest D. Olin, well-known Perry, N. Y., farmer.

A dairy farmer, a radio man, and a scientist tell the world about dry milk. They are, left to right, Ernest D. Olin, the dairy farmer; Phil Alampi, radio man; and Dr. George R. Greenbank, U.S.D.A., scientist.

Dr. Greenbank, who won the 1949 Borden Award upon standing work in dry milk, told farm listeners of the main milk drying operations. Pointing out that dry milk contains valuable calcium, phosphorus, proteins, carbohydrates, and "a whole alphabet of vitamins," he said that it is as nutritious as whole milk and "tastes just as good."

Mr. Wallach said dry milk is one of the chief answers to the age-old problem of what to with milk surplus. It is significant, he noted, that the American farmer's production for dry milk is steadily climbing upward. Dry milk is important to all types of farmers, he emphasized, adding:

"Ask any successful raiser of calves, chickens, dogs, goats or foxes – and he'll tell you that part of his success lies in using dry milk as part of their food."

At the Minnesota Agricultural Station, he declared, U.S.D.A. experimenters recently found that when they cut down the whole liquid milk fed to calves during the first 14 days of feeding, they could grow better calves by adding skim milk to the grain ration during the next 60 days. At the Cornell, California, and Wisconsin stations, he stated, dry skim milk added to the feed produced bigger and healthier chicks which stood up well against such diseases as coccidiosis.

Mr. Gurley, who is in charge of Borden's Manufactured Products Division and who pioneered in the export of Klim, Borden's whole dry milk, until today it is known and used the world over, said that the war gave the dry milk industry a tremendous boost.

"The Department of Agriculture, the Quartermaster's office and commercial manufacturers formed a team that nearly tripled production to meet wartime needs," he said. "After G. I. Joe came home, people overseas began demanding more and more of American products, including dry milk. Today, America leads the world in feeding hungry people everywhere the all-important nutrients found in dry milk."

Emphasizing the farmer's stake in producing milk for the dry milk industry's needs, Mr. Olin went back to the turn of the century to show how fully the rise of the still-new dry milk industry changed the agricultural economy of Wyoming County, New York. When dry milk plants were built in the Perry area, he said, local farmers converted their farms to dairying and forgot almost entirely about the non-dairy crops on which they previously had depended. Reason for the conversion: Milk sales to the drying plants meant a steady source of cash income, he said.

CONNECTICUT WINS AT EASTERN STATES

University of Connecticut tasted its way to another victory in the collegiate dairy products judging world by scoring a decisive victory at the Eastern States Exposition in Springfield, Massachusetts, late in September. Winning team first in everything but ice cream, the Nutmeggers were pressed only by Ohio State. Outstanding was feat of placing one, two, three in butter.

Summary of Team Standing in All Products

Rank	College	Grade
1	University of Connecticut	5
2	Ohio State University	10
3	University of Maryland	16
4	University of Massachusetts	16
5	Cornell University	23
6	Rhode Island State College	24
7	University of Vermont	25
8	University of New Hampshire	28
9	Ontario Agricultural College	33

"New Cans Pay Off". This is one of the excellent posters being used by the American Butter Institute as a part of its campaign to improve the quality of milk and cream.

Butter Institute Campaigns to Improve Quality

DRAMATIC POSTERS in full color, emphasizing the financial advantages to the dairy farmer in using new, sanitary milk cans, are now being distributed nationally as the latest forward step in a constructive campaign to maintain and improve quality standards in the production of milk and cream. The posters, together with attractive four-page folders containing a message to dairy farmers, were prepared and are being distributed in cooperation with leading dairy groups, including the American Butter Institute, National Cheese Institute and others.

The posters are designed for display at milk and cream buying stations, on trucks and at all locations where they will have an opportunity of bringing their important message to the attention of dairy farmers. Likewise, the folders are for distribution directly to dairy farmers. Both are offered at an exceptionally low price in quantity lots and every effort is being made to insure the widest possible distribution.

Lloyd Jones, widely known Chicago artist, is the artist for the poster, which depicts a smiling farmer holding a smooth new milk can in one arm while, in his other hand, he displays a check for top-grade milk. The brief message on the poster says: "NEW CANS PAY OFF. UNSANITARY CANS CUT YOUR PROFITS. GET A PREMIUM . . . . NOT A PENALTY! BUY NEW MILK CANS TODAY!" The financial angle is stressed because down-grading of milk, and outright rejections, result in serious money losses to dairy farmers, and often are the result of carelessness in the use of battered, rusty and unsanitary milk containers.

The front cover of the folders, which are of a small size easily adaptable to use as a mail insert, if desired, reproduces the folder art and message. The inside of the folders carries the hard-hitting message: "SANITARY CANS PROTECT QUALITY."

"Yes, new cans DO pay off!", the copy says. "They pay off in good, hard spendable cash by insuring top prices every time for your grade and quality of milk and cream. Here's how:

1. New cans are smooth, sanitary and easy to clean and keep clean. They reduce bacteria count which is often abnormally high because of open seams, solder cracks, pockets and crevices in old cans.

2. New cans put an end to expensive repairs — and necessary repairs to old cans mean costly delays and inconvenience.

3. New cans, because of their good appearance, help build your reputation as a quality producer.

4. Many times metallic or other off-flavor in milk can be traced to rusty old cans. New cans help to eliminate off-flavor in milk and cream which is often a factor in reducing your pay checks.

"You're not saving money by hanging on to cans which should have been replaced long ago. Your state dairy department says that dented or rusty old containers, still in use despite the fact they are unsafe for milk and cream, are one of the weakest links in the chain of quality production between the dairy farm and the milk station. They're hurting you because they lead directly to down-grading of your product, or out-and-out rejection.

"A bright and shining, sanitary new can in normal use, lasts about eight or nine years. In that length of time, it will transport milk or cream to a total value over the years of approximately $6,000. Isn't it worth an investment of $1 per year to protect milk or cream worth $6,000?

"Remember — the money lost from rejection of one can of cream will pay for two sanitary new cans. New cans are good insurance against rejections and for top prices!

"Examine your supply of cans now. If you are using cans which are dented, rusty or with rough or open seams — discard them. Start a program of regular replacement of old cans which are beyond safe service. Such a program will pay you handsome dividends and maintain your reputation as a first-rate producer. It will mean more money in the bank for you in the long run.

"The new cans you can purchase today are the finest that have ever been built. Modern methods and construction insure longer service and wear. Improvements in construction, tinning, workmanship and materials — plus rigid inspection — have increased the "life expectancy" of today's cans. They're made of strong steel. They are heavily tinned. They are quality built to protect the quality of your milk and cream for years to come.

"See them . . . . invest in them! Take the step today that helps guarantee your profits and your prestige as a good dairyman."

Samples of the posters and folders have been mailed by the Butter Institute, Cheese Institute and other groups to dairy distribution centers in all parts of the country. Orders for quantities are being received by the headquarters of the two principal groups at 110 N. Franklin Street, Chicago. Anyone who is interested in cooperating in the campaign and has not received samples is invited to write to the American Butter Institute or the National Cheese Institute, 110 North Franklin Street, Chicago, Illinois.

A campaign along similar lines which was undertaken during the war was successful in raising quality standards through replacement of old milk cans no longer fit for use. Wartime limits on production are no longer a problem. Plenty of new cans are available today, and dairy leaders are convinced that quality standards will be improved if dairy farmers discard old cans when they are unsafe for further use, and replace them with new, sanitary cans.

TIME IS MONEY—

THAT'S WHY (L-W) Sediment Testers INCREASE DAIRY PROFITS!

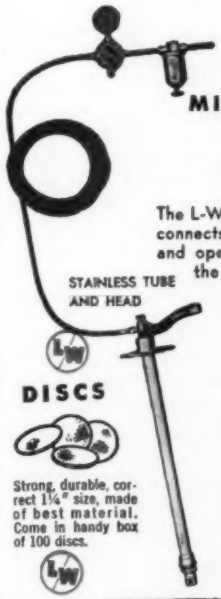
PATENTED

(RUST PROOF WHITE ENAMEL COVER—STANDARD EQUIPMENT)

L-W Mechanical Testers are recommended especially where large volume and accuracy—free from the possibility of human error—are essential.

MECHANICAL MILK SEDIMENT TESTER
MODEL "D"

This tested and approved product is serving in scores of plants throughout the country. Industry leaders like Armour, Swift, Wilson, Cudahy, Borden, Kraft, Pet, Carnation and hundreds of others, have been using the L-W Mechanical Tester for years. It is fully automatic . . . features a unique cut-off valve that assures 16 ounces every time. Note push-button control on handle and easy-to-read vacuum and pressure gauges.



STAINLESS TUBE AND HEAD

AIR-VAC
MILK SEDIMENT TESTER
MODEL E

Air-Line Operated Model "E"
Stainless Tube and Head

The L-W Air-Vac air-line operated Milk Sediment Tester connects directly with any air line already installed and operates from your own compressor. Included in the many special features of this new product are

REGULATOR—properly pre-set at factory, eliminates any possibility of change in rate of intake by the operator, assuring constant uniformity.

DIAL INDICATOR—for quick, visual determination of proper operating pressure.

AIR FILTER—for clean air . . . prevents any condensation, rust or foreign matter from coming in contact with the milk or restricting normal, easy operation.

LIGHT WEIGHT—for easy handling, resulting in considerably less fatigue.

EASY OPERATION—comfortable handle, push-button control and light weight combine to make the L-W AIR-VAC a pleasure to work with. 20 feet of dairy hose make wide range of action possible.

PATENTED AND PATENT APPLIED FOR

DISCS

Strong, durable, correct 1¼" size, made of best material. Come in handy box of 100 discs.

CARDS

No. 5, front and back shown, ¼ actual size.

see your jobber or write to . . .

(L-W) DAIRY SUPPLY DIVISION
THE LANGSENKAMP-WHEELER BRASS WORKS, INC.
1266 SHELBY STREET, INDIANAPOLIS 3, INDIANA

A Dairy Council Digest

DISCOVERY OF VITAMIN B_{12} OPENS UP ATTACK ON PERNICIOUS ANEMIA

Essential for Growth and Development, the New Vitamin Is Found in Milk and Milk Products — Isolated from the Liver

ONE of the most dramatic of recent advances in nutrition is the isolation and identification of a new vitamin — vitamin B_{12}. The discovery of vitamin B_{12} culminated a long search for the nutritional factor in liver effective in the treatment of pernicious anemia. This vitamin also is believed to play an essential role in the growth and development of the normal mammal, and appears particularly important in the utilization of protein. Milk and milk products appear to be among the foods possessing vitamin B_{12} activity.

For centuries vague expressions of the concept that food bears a relationship to anemia have appeared in medical literature. As the science of nutrition developed, it was learned that a deficiency of iron in the diet, or a loss of the power of the body to assimilate iron, causes simple anemia of the hypochromic type.

Hypochromic anemias are characterized by a lowered concentration of hemoglobin since iron is a necessary constituent of this oxygen-carrying pigment in the red blood cells[1]. Copper was found to be necessary before the iron could be used by the body for hemoglobin synthesis. Deficiencies of cobalt and pyridoxine in the diet also appear to cause anemia, and deficiencies of niacin, riboflavin, and ascorbic acid have been reported to produce anemia in experimental animals[2]. In addition, adequate quantities of protein are necessary for hemoglobin synthesis. Thus. it is now realized that a diet made up of a variety of nutritious foods which supply recommended amounts of all dietary essentials is helpful in the treatment and prevention of simple, hypochromic anemia.

Iron and other known dietary factors were of little benefit in the treatment of some anemias, however. These were the macrocytic anemias, which include pernicious anemia, the anemia of sprue, and the macrocytic anemia of pregnancy. In these anemias there is not merely a smaller amount of circulating hemoglobin, but also a reduction in number and a change in the structure of the red blood cells, together with possible decreases in the number of white cells and platelets[1].

Liver Discovered as Cure

The first advance in the treatment of these anemias was made many years ago when it was discovered that eating whole liver, in the amount of a pound or more daily, would cure pernicious anemia. During the years that followed, chemists tried repeatedly to isolate from liver the factor responsible for its effect on pernicious anemia. Eventually, extracts of liver were developed which could bring about the same remission as whole liver, and in April 1948, a pure crystalline compound believed to be responsible for the anti-pernicious anemia activity of whole liver was isolated by Rickes and associates from the liver extracts[3]. The new compound was named vitamin B_{12}.

Facts about B_{12}

1. Vitamin B_{12} is a new compound recently isolated from liver and highly effective in the treatment of pernicious anemia.
2. Vitamin B_{12} is believed to be essential for growth and development in the normal mammal. It appears to be especially important in the utilization of protein.
3. Milk and milk products are high in vitamin B_{12} activity when fed to the normal mammal.

A short time after the report of the crystallization of vitamin B_{12} the isolation of an anti-pernicious anemia factor in liver also was reported by Smith, an English scientist[4]. The studies from England help to confirm the presence and activity of vitamin B_{12}. They also indicate the minute quantities in which the new vitamin appears. From four tons of liver, about one gram of the highly active substance now called vitamin B_{12} was obtained.

Soon after the isolation of crystalline vitamin B_{12}, its activity was tested in patients with various types of macrocytic anemia. Both West[5] and Spies[6] have found it to be highly effective in producing blood regeneration. Striking improvement in the well-being of the patients was noted. Furthermore, vitamin B_{12}, like the presently available liver extracts, also was found to be highly effective against the neurological or nervous manifestations of pernicious anemia[7-9]. In addition, a limited number of cases of nutritional macrocytic anemia and of non-tropical sprue have been successfully treated with vitamin B_{12}[6,9].

Blood Regeneration Aids

It has been found that folic acid, another B vitamin, and thymine, a purine compound, also promote blood regeneration in macrocytic anemias[8]. Vitamin B_{12} may be related functionally to both folic acid and thymine[9]. Purines, such as thymine, and pyrimidines are essential substances in all cells. The animal body does not depend on preformed purines or pyrimidines in the diet, however, since they are synthesized by the body. It appears that vitamin B_{12} and folic acid may function at different stages in the enzyme system necessary for the biosynthesis of these basic constituents of blood cells[10].

Vitamin B_{12} is described as a red, heat-stable, cobalt complex containing phosphorus and some nitrogen. An outstanding property of vitamin B_{12} is its content of the trace element, cobalt[11]. The presence of cobalt in this new anti-anemia vitamin may explain why traces of cobalt have been suggested as essential in the treatment of anemia.

Vitamin B_{12} was chosen by Rickes and associates as the name for the new anti-pernicious anemia compound because

B_{12} had not yet been used in the B-complex series and because vitamin B_{12} connotes nutritional significance only and does not extend indications of biological roles which have not been adequately studied[3]. Recent experiments which demonstrate that *Factor X* reported by Cary and associates[12-13] is identical with vitamin B_{12}[14], indicate the wisdom of the name chosen for the new compound and also that the new vitamin may have a broad usefulness in normal nutrition, as well as in the treatment of pernicious anemia.

Factor X Isolated

Early reports of work carried on for many years by Cary and associates indicated that rats on a diet adequate in all known nutrients required an unidentified factor for normal growth[12-13]. This Factor X was found to be stored in the young at weaning, but by feeding mother rats a diet deficient in Factor X, young animals depleted of the factor were obtained. Such depleted animals showed marked retardation of growth. On the average, their growth was only 54 percent of normal, i.e. of rats on approximately maximally effective doses of liver extract. However, when supplements of commercial liver extract were fed, growth returned to normal, indicating that liver was a potent source of Factor X.

Recently, maximally effective doses of vitamin B_{12} and of liver extract were fed to rats as supplements to the Factor X-deficient ration. The rates of growth of the rats were normal in both cases indicating that in so far as growth is concerned, Factor X is vitamin B_{12} or some B_{12}-active material[14].

B_{12} Essential to Growth

Cary and associates have found vitamin B_{12} to be essential for growth and development and probably for reproduction and lactation in experimental animals. The first evidence of a specific function of vitamin B_{12} in normal nutrition also comes from the work of these scientists. They believe that vitamin B_{12} plays an important role in the capacity of the normal mammal to utilize diets containing various levels of protein.

The feeding of high levels of protein in B_{12}-deficient rations was found to be very deleterious. Growth when the B_{12}-deficient ration contained 25 percent protein was 54 percent of normal; with 45 percent protein growth was reduced to 25 or 30 percent of normal; with 65 percent of protein the animals either failed to grow or died. In each case, supplementation of the diet with vitamin B_{12}, or with liver extract had equivalent beneficial effects. Very minute doses of B_{12} were effective in supplementing the deficient diets. This confirms the statements of other workers, that vitamin B_{12} is one of the most potent biologically active compounds known[5-8].

An interesting aspect of the work on vitamin B_{12} by Cary and associates is the effect of this vitamin on the utilization of diets containing lactose[14]. When 25 percent pure crystalline lactose was fed in B_{12}-deficient rations, it depressed growth. Liver extract overcame the growth depression. However, when dried skim milk, instead of the pure crystalline sugar, was fed as the source of the 25 percent lactose, growth was normal. This shows how the vitamin B_{12} activity of milk enables the animal to use effectively the lactose, as well as the protein, in milk.

Vitamin B_{12} was first isolated from liver[8]. In addition, Rickes has isolated B_{12} from a mold of the *Streptomyces* species which may prove to be an important commercial source of the crystalline material[15].

Sources of Vitamin B_{12}

Cary and associates, using biological experiments with rats, have obtained valuable information on the B_{12} activity of many foods[14]. Casein prepared by simple centrifugation was

(Please turn to Page 58)

IN THE NEWS

Can Washing Problems Solved by Scientific Methods

"Now Our Cans and Machine Both Are REALLY CLEAN," say Operators. "Cans Sparkle and All Jets Are Open and Working."

Scientific methods now simplify can washing. Dull, filmy, lime streaked and milkstone encrusted cans need no longer be tolerated.

Clogged jets and limed-up washers operating at half efficiency yield to methods and materials that keep them working at FULL efficiency . . . clean, smooth-running, lime-free.

Clean cans no longer are re-limed with baked on mineral precipitates in the sterile rinse position.

The answer is: newer methods; newer products.

With Klenzade Acid-Klenz, Klenzade "CBS" Cleaner, and two Chem-O-Shot Feeders, can washing becomes a simple scientific routine.

Klenzade starts you off with a clean washer using Klenzade Du-Clean to remove accumulated lime deposits. Thereafter alternate use of Klenzade Acid-Klenz and Klenzade "CBS" Cleaner in can washing also keeps the machine clean. Acid-Klenz and a Chem-O-Shot Feeder in the sterile rinse position prevent mineral precipitation on clean cans.

Results are positive . . . and a definite step forward in lower bacteria counts. Send now for the Klenzade free Can Washing Booklet.

DAIRY INDUSTRIES KLENZADE SANITATION

Scientific Can Washing Methods

Can Washing Booklet

KLENZADE PRODUCTS, INC. BELOIT, WIS.

Please send a free copy of the Klenzade Can Washing Booklet to:

COMPANY.....

BY.....

STREET.....

CITY..... ZONE..... STATE.....

E. L. CAVITT

DAIRY PROMOTER

By GERALD L. BERMAN

MEN IN THE MILK INDUSTRY around Canton, Ohio, are constantly being amazed at the efficiency and enthusiasm of E. L. Cavitt, secretary of the Stark County Dairy Products Association.

For Lee, as he is called, is forever coming up with new ideas for improving and promoting the local industry. And he is a well of information. Ask him about a specific list of figures and it will appear at his fingertips like magic. Ask where you can get materials for a display or poster and the speed with which he answers will stagger you. Or ask whom you can get to take a publicity picture and he will undoubtedly say he will take it himself.

Tall, graying and always smoking a pipe, and incidently he owns nearly 150, he appears to be slightly nervous and anxious to be doing something. His eyes are kind and sympathetic and always searching for ways to help improve the industry and its relations with the public.

He has been a major driving force behind the past achievements of the Stark County industry, being co-founder of the milk marketing board, Servall, the universal bottle service, and the local unit of the National Dairy Council.

Many of Cavitt's proposals have been adopted, tested and proven in Stark County and later duplicated in local industries all over the nation.

In 1932, when there was a great surplus of milk, he saw the need for a formula between the dealers and the producers, and on the theory that "industry cooperation and willingness to work together and to accept new ideas" would lead them out of their dilemma, promptly pushed the establishment of the marketing board between the dealers and the producers.

Through this pool the producers are able to sell their milk on the basis of three classes and three prices, regardless of what the milk would be used for. Cavitt remained at the head of this cooperative endeavor for nine years.

Helped Found Dairy Council Unit

In 1937 he became co-founder of the local unit of the Dairy Council, helping to get 49 contracts to back up its institution. This was in answer to the need for nutritional education on the local scene.

Three years after helping to start the Dairy Council unit he became secretary of the Stark County Dairy Products Association which is the largest local dairy trade association in any one area in the country. In the capacity of secretary of this organization he acquired new and numerous activities which he has tackled with his ample resources of ideas.

One thing he does to help build the industry's internal efficiency is to issue a bulletin from time to time, carrying news of what is going on and urging members to boost the industry through greater cooperation. The bulletins are mimeographed and sent out whenever there is sufficient information to warrant.

Cavitt's ability as secretary of the dealers association got him an additional job

in 1941 when the dealers drafted him to head the newly-formed universal bottle service, which he had helped to start. Called Servall, it is a dealer subsidiary which licenses bottles to them on the basis of their monthly sales. It helps them to minimize their costs through cooperative sharing of bottles which carry no dealer name, only lettering indicating Servall ownership.

Who's Got the Bottle

A few years ago, Cavitt relates, he instigated a campaign to try to bring in bottles which had strayed out of circulation. The public was informed that the bottles were the property of Servall and that when the milk was consumed the bottles were to be returned. The campaign was quite effective. It brought in as high as 37,000 to 40,000 bottles in one month.

In conjunction with the bottle campaign, Servall, under the direction of Cavitt, hired a man to pick up stray bottles from vacant houses. Search of one of the houses disclosed an accumulation of 400 bottles alone. They were everywhere, Cavitt says, in the basement, the attic, in the yard, and under the porches. This was another phase of his continuous efforts to help the industry by saving on costs.

Cavitt is a strong advocate of building good will and he will go to the extreme to improve public opinion of the milk industry. He collects everything which he thinks he could possibly use to make the public think well of the milk business.

Walk into his office and you will see small glass bottles, duplicates of the regular bottles, for giving to the kids. "Give a child one of these bottles and he will remember it the rest of his life," Cavitt says.

Cowbells and Neckties

Also in his office you will see miniature copper cowbells, pennants and rulers which bear the inscription, "It's a good rule to drink milk." Lying about the room are posters, megaphones, bumper signs, proclaiming June as Dairy Month, and a series of cards for illustration of a lecture, and even neckties with dairy pictures painted on them.

Most of these promotional pieces he uses during June Dairy Month and has tested them for their effectiveness. Their procurement, however, presents Cavitt with a problem. Many of the pieces have to be ordered in large lots, making it almost impossible for small organizations to get them, except in conjunction with other groups.

Realizing the benefit to be derived from these pieces, he listed them and their prices, had them mimeographed and sent them to state secretaries and national organizations all over the country, inviting them to order together so that the items would be available to everyone.

Souvenir Should Last

Cavitt, who always stresses the importance of what people think of the industry, believes that when a souvenir is given away it should be a lasting gift, one which will be kept for a long time. "In any number of homes I have seen permanent gifts such as these cow bells and miniature glass bottles and they had been received by the owners years previously."

Cavitt is always on the lookout fo. any type of advertising or promotional scheme which he could effectively adapt to the Stark County industry. He says he is thinking about it all the time, even when he is out driving his car.

Asked how he came to be a part of the milk business, he replied, "Fate sometimes plays strange tricks on us. I started out as an accountant and now look where I'm at, right in the middle of the milk industry."

A native of Steubenville, Ohio, he attended a business school in preparation for a career in accounting. Later he taught night school and then day school before turning to jobs in other fields of figures.

Milk Business Via Accounting

He got sidetracked in 1932 when he took the position as accountant and auditor with the marketing pool in Stark County. It eventually led him deeper into the business of milk and further away from accounting.

However, he hasn't gotten entirely away from accounting. He still maintains a strong interest in it, and has applied it to certain extent in his present position, devising a uniform system of accounting for dealers whose firms are too small for regular accounting procedures.

Besides his regular work as secretary of the dealers association and manager of the universal bottle service, he is also on the board of directors of the National Milk Bottle Exchange Association. In addition, he is a member of the local Kiwanis, the Advertising Club, plus a camera club.

Men in the milk industry of Stark County will agree that fate was kind to the local industry when it led E. L. Cavitt away from accounting to the interests of milk, for he has done much to make the Stark County industry a leader in its field.

THE SIGNIFICANCE of COLIFORM BACTERIA

K. R. Johansson
University of California

Coliform bacteria in milk and other dairy products are always undesirable. This obnoxious group of bacteria is made up mainly of two species, *Escherichia coli* and *Aerobacter aerogenes*, as well as those types related to both species which are commonly referred to as "intermediates". The primary habitat of *E. coli* is in the intestinal tract of man and other animals (including the cow), whereas the usual source of *A. aerogenes* is on grain, silage, and other vegetation, although there are small numbers of the latter in the intestines of animals. Thus, the presence of coliform organisms of the *E. coli* type has been believed to indicate fecal pollution of water, milk, and other natural foodstuffs; this then has a public health significance because of the large number of pathogenic organisms encountered in the intestinal tracts of man and animals. However, in milk the situation is different than in the case of water.[3] Milk is an excellent culture medium for many microorganisms, particularly coliforms. Thus, a minute contamination usually considered negligible might result in considerable growth of coliform organisms before tests are made to detect their presence. This can be prevented to some extent if the milk is immediately cooled to under 50° F. because such low temperatures are not conducive to growth of these organisms. Actually, it has been found impossible to produce milk completely lacking in coliform bacteria, even of the *E. coli* type. According to some investigators, it should not be difficult to produce market milk containing less than 100 coliforms per ml., and excessive counts could indicate unsanitary methods, or delayed and/or insufficient cooling.

Because of the fact that there appears to be a more or less constant proportion, small that it is, of the coliform population that is resistant to ordinary pasteurization, their value as an index of the efficacy of pasteurization is open to question. Their presence in pasteurized milk, therefore, is not necessarily a result of recontamination.

In general, methods in producing market milk which result in a low total bacterial count will minimize the number of coliform organisms.

DR. ROBERT F. HOLLAND

Problems of the Industry

DR. JAMES C. WHITE

Dr. Robert F. Holland and Dr. James C. White, both of the Department of Dairy Industry at Cornell University, conduct their question and answer column each month in the "Review". Questions should be addressed to either Dr. White or Dr. Holland, Department of Dairy Industry, Stocking Hall, Cornell University, Ithaca, N. Y.

●

Cultured Buttermilk from Skim-Milk Powder

QUESTION—It is often impossible to purchase skim milk in our vicinity and therefore we cannot produce commercial buttermilk as we want it. We are wondering if it is possible to make good buttermilk from skim powder or some other concentrated product. If so will you kindly give us the method.

Q. A. J., Arkansas

ANSWER — Skim powder or non-fat dry milk solids, as this product is now designated, has been extensively used in recent years for the production of both commercial buttermilk and cottage cheese as well. This has been especially true during periods of fresh skim milk shortage such as you mention.

Methods of manufacture are about as numerous as the number of manufacturers, but a good operator can turn out a very satisfactory product if he is careful and observing.

One method which we have found very satisfactory is as follows:

Materials to make 100 lbs. buttermilk:

	LBS.
Skim powder	10
40% cream	⅛
Salt	⅛
Cold water (tap water)	89
Starter	¼ pt.

Run about one-half the required amount of water into the buttermilk vat (or a milk can for small batches) and add the cream and salt. Now add the skim powder *very slowly with constant agitation* to prevent lumps from forming. Continue agitation until the powder is all dissolved. The balance of the water may be added during the latter part of the stirring period. Warm water should not be used because it will cause excessive foaming during the mixing operation. The cream helps to reduce foaming to a minimum.

When solution is complete, pasteurize at 170° - 185° F. for 40 minutes, then cool to about 72° F. and inoculate. The amount of starter used will vary with its activity. Incubate at this temperature until the desired acidity is reached, then cool and bottle.

The above formula may, of course, be varied to suit individual requirements.

●

Pasteurized Milk as a Source of Calcium

QUESTION—I have read that one of the disadvantages of pasteurization is that the calcium in milk is precipitated by the heat treatment; therefore, pasteurized milk is not as good a food as raw milk. Can you tell me if this is true and what can be done about it?

A. J., New York

ANSWER — It is true that when milk is pasteurized the heat treatment is sufficient to cause a change in the calcium. Some of the calcium will be converted into insoluble phosphate salts and they will affect the milk in some ways.

Where milk is used in cheese making, free calcium is necessary to form the curds. Pasteurized milk, because of this change in the state of calcium, will not form as firm a curd as raw milk and it is sometimes necessary to add calcium to milk in order to produce a satisfactory product. Where milk is used in the diet, however, the ingested milk is exposed in the stomach to the highly acid digestive juices. Under acid conditions the insoluble phosphate salts formed by heating become readily soluble and the calcium is as available for digestion whether it comes from pasteurized milk or raw milk.

Pasteurization has no effect on the nutritional availability of calcium.

EOD STILL HOLDS GOOD

Where dairy companies may be concerned about changing their delivery schedule to more frequent deliveries because of competition, recent figures indicate that there is no economic justification for making any such changes.

In 397 cities surveyed by the Milk Industry Foundation it was found that twice as many cities reported 3-day a week deliveries than cities that delivered more often than every other day. About 20 percent of the cities were on 3-day and almost 70 percent on EOD, with more frequent types of delivery making up the remaining 10 percent.

A GOOD VOICE IS THE SALESMAN'S GREATEST ASSET

By **FRANK W. GREY**

THE SALESMAN earns his living by talking. In view of this it is astonishing that so few make any effort to train themselves in effective speech.

Voice teachers emphasize in their training courses the improvement of tone quality, utterance, and vocabulary. These are the three basic essentials of good speaking.

We have all heard the salesman who never changes his voice tone. The result is a monotone which is more apt to lull the buyer to sleep than stimulate his interest. The tones of the voice should be clear and audible. They should have ring and resonance. This does not necessarily mean speaking loudly – a well pitched voice can be heard perfectly across a large room, even when the tones are subdued.

Emphasis and meaning are added to spoken words by variations of tone and cadence of delivery. Trained speakers learn to raise or lower their tones to convey meanings. They gain emphasis through change of pace, and drive home their points by the effective use of pauses.

Good utterance is achieved by avoiding laziness in enunciation. It is so easy to get into the habit of mumbling and slurring words, but not so easy for others to understand what we are talking about. Since it is vitally important for the salesman to be understood, he should make every effort to enunciate clearly.

It is commonly supposed that an expressive vocabulary is the by-product of higher education. This is not necessarily true. Good vocabulary does not mean length of words, but *choice* of words. Anyone, regardless of his educational background, can acquire an extensive and versatile vocabulary if he is alert to the meaning and usages of words.

We once knew an actor who left the stage and took up the profession of selling. He was successful almost from the start. Other salesmen in the organization had the advantage of more experience with the company and its products, but this man had the advantage of a remarkable speaking voice. His voice tones were clear and musical, he conveyed meanings with simple gestures. People liked to hear him talk. It was said by one of his competitors that he *hypnotized* the buyers into signing orders.

Teachers of elocution tell us that anyone will show a noticeable improvement in speaking after a little attention is given to the details of tone quality and utterance. The salesman's voice is his most effective working tool. Why not learn to use it more skillfully?

STOELTING

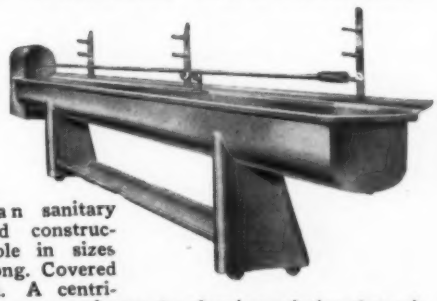
ADVANCED EQUIPMENT

★ Modern Design
★ Finest Stainless Steel Craftsmanship
★ Plant Layout and Engineering

STOELTING "FILTRITE" COLD MILK FILTER

"Filtrite" provides high - efficiency double filtering. Every drop of milk passes through two separate filter bags assuring a clean sediment-free product under completely enclosed conditions while filtering. The telescoping filter bag frames and the bags can easily be removed and replaced. One single rubber gasket seals the entire unit. Especially designed for volume production. Cannot be overloaded and requires no limit switches. "Filtrite" has no equal for low initial cost and dependable cold milk filtering.

STOELTING SANITARY PIPE WASHER



This new streamlined attractively designed washer will save hours of cleaning time in your plant and assure you of thoroughly clean sanitary pipes. All-welded construction and available in sizes from 6′ to 12′ long. Covered drive mechanism. A centrifugal water pressure pump forces the cleaning solution through the pipes and, in combination with the brush, effectively removes all residue, fats and milkstone, leaving a clean bacteria-free surface. Wood roller pipe rest protects the sanitary pipes from damage.

Write For Descriptive Literature

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WHAT DO CONSUMERS THINK of BOTTLED FRESH CONCENTRATED MILK

Canned Milk Has Appeal As Refrigerator Space Saver But Must Offer Substantial Economy To Command Regular Markets

By **G. M. TROUT and G. G. QUACKENBUSH**
Michigan State College

CONSIDERABLE publicity has been given lately to methods of processing and distributing milk, which might mislead the consumer to believe that immediate changes in the present system of assembling, processing, bottling and distributing fresh milk are in the offing (1).

One of these methods developed in Indiana by Stambaugh and Graves consisted, in brief, in homogenizing the warm milk as it was assembled in a vat directly from the cows, pasteurizing the milk at 190° F. for 1 second in a jacketed, steam cylinder, fitted with a spiral core, canning and sealing it in a nitrogen atmosphere and, lastly, sterilizing the milk. Another method first introduced by Meredith and Stoltz (2) of Ohio and recently studied in Michigan consisted in concentrating the milk under vacuum, homogenizing, pasteurizing, cooling, bottling, and distributing it the same as is done with regular milk.

The Indiana method involves processing the milk directly from the cow to the can. The product is not concentrated; hence, the product remains as normal milk in composition. On the other hand, the Ohio method involves vaporizing off much of the water under vacuum, thus reducing the bulk for more economical distribution. The milk may be reconstituted in the home for beverage purposes merely by the addition of water. A brief review of the Ohio process and its acceptance by the consumer is of interest.

During the depression years of the early 'thirties Meredith and Stoltz (2) introduced bottled concentrated milk in order to make available a lower priced fresh milk for the consumer. Observations on consumer reaction to the reconstituted product, as well as numerous studies on the effects of the process on various properties of the milk, indicated that the product had much merit. Nevertheless, the product never "caught on". This may have been due in large part to the fact that the product was ahead of its time. Since then, some changes have been made in milk distribution which might make a bottled, concentrated milk more acceptable. For example, every-other-day delivery has crowded the consumers' refrigerator despite the advent of the square bottle. Also, store sales in some metropolitan areas have far exceeded home delivery sales (3). A bottle concentrated product would require less refrigerator space, and less weight would be involved in carrying home concentrated milk from the stores. Already paper containers have reduced somewhat the weight of the milk load carried from the stores.

In view of these trends and the fact that normal milk is bulky because of its high water content, thus adding to the processing and distributing costs, it seemed desirable to make further studies on consumer reaction to bottled fresh concentrated milk. This paper is a progress report on the data obtained to date.

Fresh whole milk previously heated to 150° to 160° F., was concentrated in a 42-inch stainless steel vacuum pan at ratios of 2:1, 3:1, and 4:1. Following concentration the milk was holder-pasteurized, homogenized at various pressures, cooled and bottled. Quiescent-storage, fat-rising tests were made at 48 hours to ascertain the efficiency of homogenization. Flavor examinations were made in the laboratory on the reconstituted product, using for reconstitution waters obtained from three widely separated sections of Michigan. Consumer reaction was obtained through questionnaires to consumers who were furnished samples of the series under study.

TABLE 1 — Flavor of milk concentrated at various ratios and reconstituted to its original composition by the addition of water.

Homogenization pressure (lbs./sq. in.)	Original milk	Flavor score* of the Reconstituted milk which had been concentrated at the ratio of		
		2:1	3:1	4:1
0	23	21½	20½	19
2500	23	21½	20½	19
4000	23	21½	20½	18½

*Key: 23, excellent; no criticism.
21-23, good
18-21, fair

TABLE 2 — Effect upon the flavor when concentrated milk was reconstituted with water obtained from widely separated areas of Michigan.

Homogenization pressure (Lb./sq. in.)	Ratio of concentration	The flavor of the reconstituted-concentrated milk which was reconstituted by the addition of water from area		
		A	B	C
0	None			
2500	None			
4000	None			
0	2:1	No criticism	No criticism	Salty
2500	2:1	Sl. cooked	No criticism	Sl. salty
4000	2:1	No criticism	No criticism	Sl. salty
0	3:1	No criticism	No criticism	Salty
2500	3:1	No criticism	No criticism	Salty
4000	3:1	Watery	No criticism	Salty

Judge's Verdict on Flavor

Milk concentrated at various ratios and reconstituted to its original composition was judged by experienced milk judges as well as by consumers. The judgments of the experienced judges are recorded in Tables 1 and 2; those of consumers are presented in another section. In some of the trials the experienced milk judge was inclined to criticize the flavor of the concentrated-reconstituted milk. When "excellent" flavor milk was so processed the judges placed the concentrated milk, so far as flavor was concerned, in the class of "good" or "fair" milk. As the ratio of concentration increased, which necessitated greater additions of water to restore it to its original composition, the flavor was less desirable. However, the flavor of the reconstituted milk was not objectionable although generally the judges criticized it as "flat" or "cooked", the fine, excellent flavor having been impaired in

the process. This flavor criticism was not greater than sometimes is experienced with commercially pasteurized milk.

The source of the water used in reconstituting the milk has some effect on the flavor of the reconstituted product (Table 2). When drinking water from one area, designated as area C, was used in reconstituting the milk, the flavor of the milk was invariably criticized as being salty. The original water also tasted of salt, however. No off flavors were noted in the reconstitued milk when water from other areas was used.

Homogenization of Concentrated Milk

The effects of concentration and homogenization upon fat rising in the reconstituted milk are shown in Table 3. As the ratio of concentration increases, the extent of fat rising decreases as indicated by the percentage difference of fat between the upper 100 ml. and the remainder of a quart after 48 hours of quiescent storage. This might well be expected since higher concentrations require longer exposures to the heat and agitation incident to the process. Nevertheless, sufficient fat rises in the reconstituted milk regardless of the ratio of concentration to yield a creamy concentration on the surface. The creaming ability of the milk is so impaired, however, by the process that normal creaming does not occur. Hence, adequate homogenization would seem to be essential in producing concentrated milk for bottling purposes. Data indicate that pressures of 2,000 to 2,500 pounds per square inch would seem to be adequate. The data reported in Table 3 were obtained on milk homogenized prior to condensation. Data obtained on other trials in which the milk was homogenized after concentration indicate that pressures of 2,000 to 3,000 pounds were sufficient to keep the percentage difference in fat between the upper and lower portions to 5 percent or below.

Problems in Processing and Bottling

The technique of producing concentrated milk for bottling is essentially the same as that for evaporated milk. Both involve the vacuum condensation and adequate homogenization. However, since the bottled product is not sterilized, those techniques to prevent curdling of milk under pressure sterilization of evaporated milk are not a part of the processing of concentrated milk for bottling purposes. The forewarming temperature is purposely kept low, between 150° and 160° F., in order to prevent so far as possible a cooked flavor. Nevertheless, in our present method of condensing even under high vacuum, steam at low pressure is used as the heating medium. The temperatures of the steam vary with the pressure and are always above 212° F. Such temperatures applied to microscopic films of milk repeatedly during the process inevitably cause a heated, "condensed-milk" taste despite the low indicating thermometer temperature (135° to 140° F.) of the milk itself during evaporation. Thus, under this system of evaporation, the fresh, non-sterilized milk will have the cooked flavor, more or less pronounced.

With experience, concentrating the milk to a predetermined ratio and desired composition may be done within limits. However, exact composition is attained by final testing and standardization after the concentrate is drawn

TABLE 3 — Influence of concentration upon the extent of fat rising in the reconstituted milk.

Homogenization pressure (Lb./sq. in.)	Percentage difference of fat between the upper 100 ml. and the remainder of a quart of the reconstituted milk after 48 hours of quiescent storage when the ratio of concentration was			
	None	2:1	3:1	4:1
	percent	percent	percent	percent
0	239.72	84.57	60.27	43.62
2500	7.75	—0.24	4.40	1.80
4000	2.5	—2.92	7.8	0.79

Milk Plant Operators Report New Savings!

THE
MONITOR
bulk milk dispenser simplifies handling

Each month, more and more milk plant people write about the important economies that result from supplying bulk milk instead of individual containers. Such comments as:

NO BREAKAGE
NO CRATES TO BUY
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For Further Information Write For Booklet A

Monitor Process Corporation
192 BRIGHT STREET JERSEY CITY 2, N. J.

from the pan. Homogenization, pasteurization, cooling and packaging then follow.

Securing low bacteria counts and negative phosphatase tests presented no difficulties. Standard plate counts of the concentrated product ranged from 500 to 13,000. Phosphatase tests were all negative. Nevertheless, coliform tests indicated post-pasteurization contamination. This is not surprising considering the small quantity of each batch, about 25 gallons, actually packaged, which involved manual operation, in part.

Consumer Reaction to Flavor

Bottles of milk concentrated at the ratio of 2:1 and 3:1 were furnished many families and individuals, along with a questionnaire asking for certain specific information. Specific directions on reconstituting the milk were given. The following quesions concerning flavor were asked:

a) Do you see any difference in the taste of the reconstituted milk as compared with that of the milk you have been using?

A total of 123 questionnaires were returned; 31, 50 and 42 being received from trials 1, 2 and 3 respectively. Not all responding to the questionnaire answered all the questions asked. The percentage distribution of the responses are presented in Table 4. These were recorded as three trials. Trial 1 represents a composite of responses on three different lots of milk. Samples from these lots were furnished to older individuals, and families wherein the feeding of children likely did not aid in the detection of differences between the reconstituted-concentrated milk and the regular milk. Responses in trials 2 and 3 were from two individual lots of milk. "GI" families and younger people, as well as many older people, were furnished samples. Data indicate that an overwhelming majority of those using the milk could detect differences between the reconstituted-concentrated milk and the regular milk (Table 4). However, this high percentage of detection of flavor difference does not infer that the flavor noted was objectionable in an way. In fact, data indicate that the flavor was not objectionable although a difference in flavor was noted (Table 4).

b) Was the flavor objectionable?

Those noting differences between the flavor of the reconstituted-concentrated milk and regular milk were asked to describe the flavor of the reconstituted product. The following responses were given:

Seemed somewhat heavier than normal milk.
Tastes more like condensed milk.
Possibility of taste from water used to dilute.
A lingering taste of condensed milk, not serious.
Slight cooked.
Some different flavor as if cooked.
Sweeter.
Sweeter, like caramel, smoother.
Little more bland and slightly sweeter.
Tastes boiled.
Sweeter and smoother.
Like regular homogenized milk.
Richer, definitely sweeter.
Too creamy, tastes like milk made from dry powdered milk.
Cooked, salty.
Salty; fat superior to our regular milk.
Rich, smooth.
Some evidence of cooked flavor.
Tastes like raw milk.
A sickening, heavy sweet taste. Also cooked.
Cooked.
Slightly thicker and rich flavor; seems sweeter.
Cooked, abnormally sweet.
Seems richer and slightly sweeter — like ice cream.
Creamy and a little richer; a slightly cooked flavor.
Only slightly cooked.
Slight sweet taste not apparent in raw milk.
Suggestion of condensed milk taste.
Slightly cooked but rather pleasing.
Dairy products flavor.
Caramel taste.
Chalky taste.
Tastes like evaporated milk.
Slightly burned taste.
Similar to cow's milk, like Jersey, maybe richer.
Slightly sweeter than ordinary milk.
Seems to have slightly condensed flavor.
Too rich tasting after one glass.
Soap taste.
Slight taste of being scalded.
A bland flavor.
A more distinct taste but not like evaporated milk.
A chalky taste.

A survey of this list of descriptions shows that the flavors associated with the heat of processing such as "cooked," "condensed," "boiled," "caramel," seem to predominate. Flavor terms such as "sweeter," and "richer," appear to follow closely.

In these studies the milk was concentrated 2:1, 3:1 and 4:1. The latter concentration was so viscous and involved the addition of so much water in reconstituting it to its original composition that further studies on it were discontinued. Thus, only concentrations of 2:1 and 3:1 were submitted for consumer reaction. Data did not seem to indicate any decided preference over one for the other; in trial 1 responses were tied; in trial 2 the concentration of 2:1 was preferred, whereas in trial 3 the 3:1 concentration was the choice. Considering the increased viscosity, adhesion to container, and amount of water to reconstitute it, the 3:1 concentration would seem to be too concentrated. However, approximately two-thirds of those responding to the questionnaire found no difficulty in reconstituting the milk, but did not specify which concentration.

Saving of refrigerator space—Since the product is concentrated less refrigerator space would be required than for storing an equivalent amount of regular milk. It seemed desirable to ascertain if the saving of refrigerator space would be be of any value to the consumer. Obviously, it was. Responses in trials 2 and 3 (the question was not asked in trial 1) showed that 61.2 and 76.7 percent, respectively, considered the saving of refrigerator space valuable to them. A small percentage made no reply to this question.

Would People Buy It

Those having the opportunity of using the milk were asked if they felt honestly they would be interested in using it if it were made available. Responses indicated they would be interested in using the product, only if there were a saving of 3 cents per quart of milk equivalent (Table 5). A small percentage indicated they would not buy the product at all. Eighty-six and 87 percent, respectively, of those responding in Trials 2 and 3 to the question *"In your opinion has this milk any commercial possibilities?"* indicated they believed bottled concentrated milk had commercial possibilities (Data not included in Table 5). The remaining made no reply to the question. Yet, those indicating the product had commercial possibilities manifested, as shown by percentage distribution figures (Table 5) that a material saving per quart of whole milk equivalent had to be effected.

Discussion

Bulk, and hence weight, has always been a factor in the economic distribution of milk. Nevertheless, dependable doorstep delivery of safe milk of good beverage quality has done much toward increasing and maintaining high levels of fresh milk consumption in the United States. That the percentage distribution of home-delivered milk will decrease and retail store sales will increase in metropolitan areas is inevitable. Already in some markets such shifts in distribution methods have occurred at a profound rate. Single-service containers, having less weight, have been a factor in the shift to store sales. Just what influence such packaged fresh concentrated milk would have on store sales and maintained milk consumption is highly speculative. The data reported herein furnish some evidence that, at a price, concentrated milk might be purchased and that

Table 4—Consumer response concerning possible flavor differences between reconstituted-concentrated milk and regular pasteurized milk

Response as to flavor	Percentage distribution of responses in		
	Trial 1	Trial 2	Trial 3
	percent	percent	percent
Difference in flavor			
Yes	69	82	90
No	31	18	10
Flavor objectionable			
Yes	19	22	23
No	81	78	64*

*13 percent made no response.

Table 8—Reaction of the consumers who used fresh concentrated bottled milk towards buying it if it were made available

Response	Percentage distribution of responses in Trial 1	Trial 2	Trial 3
Interested in using the product			
Yes	—	66	82
No	—	28	18
Questionable	—	6	0
At the same price as milk equivalent?			
Yes	26	12	22
No	74	—	—
At the saving of 2 cents per quart of milk equivalent?			
Yes	52	24	25
No	48	—	—
At the saving of 3 cents per quart of milk equivalent?			
Yes	67	40*	53
No	32	—	—

*9 percent would not buy at all; 15 percent made no response.

although there may be a slight cooked flavor, the reconstituted milk had good beverage quality. Indications were noted also that the product might well be used without reconstitution in soups and as cream in coffee or on cereal.

While the product itself does have much merit it is not unthinkable that its introduction could be associated with embarrassing situations to the dairy industry. For instance, the health hazard of reconstituting milk in the home is not to be overlooked. Even sickness, traceable to milk, would have a depressing effect on milk consumption. The attitude of the health and regulatory officials must be considered also. Health regulations in many cities do not permit double pasteurization of milk. While the condensing process is not a pasteurization process it does involve a comparatively high heat treatment which may be construed as one form of pasteurization although not recognized as such. Actual pasteurization must follow the condensing, standardizing and homogenizing processes to assure a safe product. Furthermore, the psychological aspect of diluting milk with water is not conducive to the anticipation of milk drinking. It is believed that one of the factors responsible for the high level of milk consumption in the United States is the making available at all times by home delivery or through stores packaged, fresh, safe milk at a fair price.

Data obtained in the Ohio studies in 1935 show the cost of quantity concentration to be materially less than one cent per quart of whole milk equivalent. Thus the cost of concentration is not prohibitive. Savings on items such as container cost, especially if paper containers were used, closures, bottle washing and delivery might be effected. Nevertheless processing, packaging, and distribution of fresh concentrated milk does not lend itself to economies to the extent that prevail in the evaporated milk industry. It is believed, however, that some opportunities do exist for a reduction in the retail price of milk through concentration, provided there is sufficient volume to permit efficient use of evaporating equipment. Thus, while the introduction of fresh concentrated milk might make available to the consumer lower priced milk than that of standard bottled milk it remains to be seen if the reduction in price would be sufficient to stimulate increases in milk consumption. On the other hand, fresh concentrated milk produced in surplus areas for transportation and use in territories experiencing a shortage of milk would seem to offer great possibilities. Such milk thus might be a) bottled and distributed as a concentrate, b) reconstituted and bottled, and or c) reconstituted and mixed

(Please turn to Page 55)

A New Milk Filter
designed for
Small Milk Plants
SPARKLER MODEL 8-M-3

This new Sparkler Model 8-M-3 milk filter is designed especially to meet the requirements of the small milk plant.

It is a low cost complete unit that is simple to install in the production line without separate pump and motor. The filtering area is one square foot which provides ample capacity for maintaining a high flow rate with regular pipe line pressure. An auxiliary pump can be installed ahead of the filter if pipe line pressure is insufficient.

One important feature of this filter is its leakproof quality made possible by the method of horizontal plate assembly standard with all Sparkler filters.

Filtration is complete, all fine particles of foreign matter in the milk are removed. Either filter paper or cloth can be used and is disposable with each cleaning. All parts are stainless steel including the one inch sanitary tubing connections.

With this Model 8-M-3 filter the small milk plant can deliver the same quality milk that is produced by more expensive, larger volume milk filtering installations.

PRICE FOR COMPLETE UNIT WITH FITTINGS READY TO INSTALL $220.00

PROMPT DELIVERY

SPARKLER MODEL 8-M-3 MILK FILTER

SPARKLER MANUFACTURING COMPANY

Mundelein, Illinois

FREIGHT TARIFFS TAKE ANOTHER JUMP

September 1 Rate Increases for the Railroads Plus an Upward Revision in Classification by Motor Carriers Give the Business to the Cost of Moving Milk. Pleas to the ICC for Additional Charges Indicate that the End Is Not Yet.

***By* EDWIN C. HASTINGS**

Universal Trade Press Syndicate

EVEN THOUGH the transportation of milk has migrated from trains to trucks, the rail carriers on September 1st advanced freight rates 8 to 10 per cent. The increases will do little to help the railroads recapture the revenue they once enjoyed from milk traffic. While the truckers are no better in their pleas for increased revenue in petitions to the Interstate Commerce Commission, they do have one advantage over the railroads;— they have the traffic the rails lost. Due to this loss, "milk trains" no longer click over the rails, instead small shipments of milk move with other freight. Against this, the truckers have reaped a harvest in refrigerated equipment. They do not deserve credit for pulling the milk traffic from the rails, the fact is the shippers for various reasons turned to motor transportation.

The rail carriers at one time solicited freight on the basis they could haul traffic on low rates provided the shipper had volume shipments. For a time the shipper enjoyed "cheap transportation", then conditions changed until today the 'cost to ship' is a major expense.

The carriers claim they must have increases for the reason their operation expenses are more than the revenue received. It is true, as in any business, their equipment and labor costs due to many advances are major items that have increased beyond normal levels.

The September 1st increase is largely based on the 40 hour week labor costs. In some industries when the work week is reduced to five days per week, the employes lose one day's pay. The rail carriers were forced by the unions to accept the 40 hour week without a reduction in pay. This means, the employee will work five days per week after September 1st and receive the same rate of pay paid for six days. To operate, the carriers were required to hire 20% additional help.

From this, one can understand the additional millions of dollars added to their payrolls.

Emergency Increases

While railroads are private corporations, they are subject to government supervision. To increase rates they petition the Interstate Commerce Commission for authority. Many months elapse before the ICC arrives at the final decision. Last year the rail carriers asked for an increase of 13% and knowing the usual custom of the Commission in such matters, they requested an 'interim increase' of 10%. An 'interim' is an emergency increase while awaiting final action, that is it remains in effect until the one requested becomes permanent. Instead of allowing 10%, the Commission granted emergency increases of 4% on traffic movements in the West; 5% in the South; 6% in the East. This was granted on December 30th, 1948 and averaged 5/2% over the country. The September 1st increases of 8 to 10 per cent apply to the freight rates that were in effect previous to December 30th, 1948. The meaning of this is the shipper is now paying an emergency increase of 4 to 6 per cent, to this will be added 4%. The emergency increases will be cancelled on September 1st and replaced with the new increases added to the freight rates in effect last December.

Since the carriers didn't get the percentage asked, they will be disappointed (so will the shipper with the increases) and again within a short time they will file another petition for additional increases.

Railroads are different from motor carriers, the former have passenger trains, the latter haul freight and have no connection with bus lines. What difference does this condition make? Passenger trains do not earn revenue that make them self supporting. Freight

trains pay not only their own expense of operation but also the deficit of passenger trains.

This fact means that part of the revenue paid on each milk shipment is used to operate passenger trains. Why this condition should continue has been argued many times without reaching a satisfactory solution. The Commission in this case had to consider the contention of opponents of the rate-increase petition of the railroads that freight revenues were being used to offset deficits from passenger service. But the Commission concluded the passenger deficit was attributable to the transportation of commodities moving in passenger trains instead of in freight trains. The statement includes milk for it is a commodity that has to move in fast trains rather than slow freight. The increases apply as follows, 10% will be applied on milk shipments moving in the East and South (all territory east of the Mississippi River); 9% within Zone 1 of Western Trunk-Line Territory, this district covers the northern half of the state of Missouri, all of Iowa, south and eastern part of Minnesota from Worthington to Duluth, most of Wisconsin west of Madison and Green Bay, the upper part of Michigan; 8% within the West. Freight rates are governed by increase in effect at destination, for example – the milk shipment moves from Iowa to the East, on this 10% will apply; or the reverse, that is from the East to Iowa, the increase will be 9%. While the increases apply on most all freight (some had special increases not on the percentage basis), milk and cream were cited leaving no doubt that the increases will apply regardless of the service used. The ICC said: "Increases authorized in freight rates and charges, *including rates and charges for the transportation of milk and cream in passenger service*".

Truckers Have To Learn

The motor carriers claim to have taken nearly all the milk traffic from the rails. Those wishing to verify can secure factual information from the American Trucking Associations, Inc., Washington, D. C. If the claim is true, then by all means the truckers should be 'schooled' by their association to retain the traffic.

Transportation systems gain or lose tonnage mainly for one big reason. That reason is the systems hauling the milk traffic gained when the rates decreased. Low rates brought more business. The rails had this position and when they had all the traffic, freight rates began their scales of increases. They failed to see the importance of a young 'upstart' moving along the highways. Motor trucks of every description offered lower rates and the 'upstart' became the giant industry with four million employees. With the lower rates they gave faster service than the railroads.

However, cheap rates are something in the dim past, the rates have advanced to the place where transporation is a major expense. Which system has the lowest rates is a question that can only be answered by investigation. This requires the comparison of the rates listed in the rail and motor tariffs. If one does not wish to do this task, contacts by phone with the rail and motor carriers will reveal which is cheaper. Any carrier will furnish the information. While this latter method isn't the most practical, it will do to give some idea for the decision to use the carrier or system with the lower cost.

One may be surprised in the comparison to find rail rates are often lower than motor.

The rates of carriers are set up on a competitive basis, that is, all rail carriers' rates from city to city are generally the same. Likewise the same policy is followed by the motor carriers. In each case the same tariffs are used by hundreds of carriers. Where the volume is heavy with a rail or motor carrier, one

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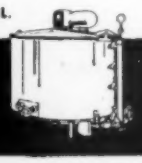

or the other will issue their own tariff with special rates applying on the traffic.

Even though the truckers are realizing heavy revenue on the milk traffic there is no reason to tax the tonnage more than it will bear.

There are a group of 500 motor truckers who should consider what happened to the milk traffic on the railroads. The '500' are participating carriers in the tariffs issued by the Motor Carriers Tariff Bureau, Inc., G. H. Dilla, Agent. The motor carriers are bound by law to charge the legal rates listed in the publications. Rates are legal when they are filed with the Interstate Commerce Commission and State Commissions. Milk to travel by common carrier has to have a rating and a rate. The two terms are not the same, there is a distinct difference between the two, nor can one be used without the other. The RATING is the designation of the class division to which milk is assigned. The Rate is the price used in computing the charge on a shipment of milk. The rating on milk is listed in a tariff known as the Freight Classification. The rate on milk is found in various class tariffs that specifically state the tariff is governed by a certain classification.

What is the purpose of the two tariffs? The freight classification places milk in a class, this is giving the commodity a class rating. But the classification does not show the rate or the price of transportation, nor does the tariff list the different points to or from where the commodity may travel.

The Class Tariff, on the other hand, does the very thing the Freight Classification does not do; it lists the different points, and gives the prices or rates to be charged for shipping milk from one particular point to another.

Don't miss Jim Kluger's accounting column on Page 52. It's new. It's authoritative. It's good.

Some carriers set up special rates on milk shipments, and when this is done it is known as a *commodity rate*. Milk can have only one rate in effect at one time. The ICC rule is 'the establishment of a commodity rate removes the application of the class rate'. The meaning of this is neither the rating in the classification nor the rate in the class tariff can be used on the milk shipment.

On the other hand, there are thousands of truckers who do not have special commodity rates on milk and carry these shipments on class rates. Not always will these carriers use the rating in the Classification. There is another tariff known as the Exceptions to the Motor Freight Classification. There are many Exception Tariffs throughout the country. Each one generally is restricted to a territory, that is a group of states. When the rating of the Classification is listed in the Exceptions, the latter's rating will apply. In short, this means one should first check the Classification for the rating on milk; second the Exceptions to Classification used by the carrier to see if there is any change in the rating; third that rating will furnish the basis for the rate to appy found in the Class tariff. The following information should be noted carefully for it shows an increase in the rating on milk over that found in the Classification. The increase may furnish the 'spearhead' for other territories to follow. The trend' can be bad for the motor carriers if they forget how the rails lost the milk traffic.

The '500 motor carriers' previously mentioned in this article are in the states of Ohio, Illinois, New York, Missouri, West Virginia, Pennsylvania, Maryland, Indiana, Michigan and Kentucky. They transport milk under the rating listed in the Exceptions to the National Motor Freight Classification No. 10, issued by

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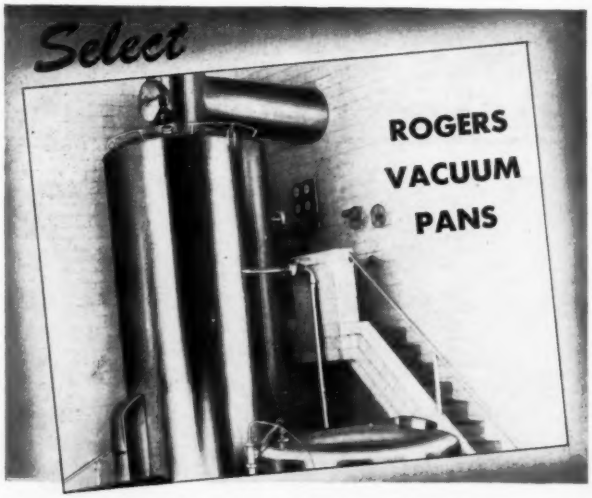

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the Motor Carriers Tariff Bureau. The Exception Tariff became effective September 1st and covers two territories, that of Central Freight Association and Trunk Line. States in this area are: Illinois, Indiana, Iowa, Kentucky, Michigan, Missouri, New York, Ohio Pennsylvania, West Virginia, Wisconsin, Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Jersey, North Carolina, Rhode Island, Vermont and Virginia.

The Exceptions tariff used by the '500' on September 1st, *increased* the rating on shipments of MILK or CREAM, moving by truck in milk shipping cans to Class 100, this is FIRST CLASS and means a rate of 100% of the first class rate. The application is from and to points is Wisconsin, that is movements from any point in the states mentioned to Wisconsin, or from Wisconsin to any points in Wisconsin, that is movements applies on either truckload or less-than-truckload shipments. It is rather odd to apply high rates on truckload shipments. When this is done, the purpose of the carrier often is to 'get rid of the traffic' or if the carrier is the only outlet for the shipper, the latter faces a serious problem to pay the increase. And it is common knowledge that Wisconsin is one of the chief dairy sections of the country.

As a contrast for comparison note the ratings that apply in other sections. For example, the National Motor Freight Classification lists ratings of Class 1 (100% of the first class rate) on less- than truckloads in the West; Class 3 (70%) on truckloads, minimum weight 20,000 pounds in the West.

New England Classifications

In the New England States there are two motor freight classifications that govern shipments of milk. The Official Motor Freight Classification No. 4 is used by 600 carriers. In this tariff, on Buttermilk, the rating is Class 5 (35%) either on less-than-truckloads or truckloads. For Milk or Cream, the tariff states 'not taken except as may be provided for in tariffs of individual carriers and subject to rates, rules and regulations as named in such tariffs'. The Classification is issued by the Eastern Motor Freight Conference. The Exceptions to this Classification lists one carrier the New England Transportation Company of Boston hauling Buttermilk, Milk or Cream, also Containers, empty, for the above commodities when loaded movement is via the NET Co., on a Class 3 rating (70%) in each direction for both the loaded or empty movement. The shipments are restricted to the following: In view of the perishable nature of this traffic, the NET Co., reserves the right to refuse shipments to or from any point on which its established service will not provide the expeditious handling required in the movement of this freight.

The other tariff is the Coordinated Motor Freight Classification No. 5, issued by the New England Motor Rate Bureau. There are about 1,100 motor carriers that use this tariff to govern shipments moving by truck. The less-than-truckload and truckload rating on milk or cream is Class 4 (50%). The products can be shipped in cans, bottles and jugs. Refrigeration when required is to be furnished by the shipper.

From this contrast an analysis can be drawn that the ratings and rates on milk shipments are badly out of line, there should be some uniformity with reasonable rates applied. Some carriers are justified to charge high rates on products with a limited demand. Milk, however, no one will question its place in transportation. Daily shipments on a vast scale are enough to appeal to any carrier for a continued source of revenue. It seems strange when the fact is failed to be considered that a good thing can be ruined with excessive increases and force the shippers to seek other means of transportation.

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MILLION DOLLAR DAIRY UNIT *for* UNIVERSITY *of* TENNESSEE

Industry In The South Gets Big Boost With Construction of Splendid Facilities For Teaching and Research In Volunteer State

A NEW MILLION-DOLLAR dairy unit to serve Tennessee's 100-million-dollar dairy industry will be dedicated November 4 in Knoxville at the University of Tennessee's College of Agriculture, announced President C. E. Brehm of the University.

The unit consists of two structures side-by-side on the College of Agriculture campus. One is a $600,000 four-story building to house laboratories, classrooms, and offices for the University's dairy department; the other a manufacturing building — a two-story model dairy plant costing nearly $435,000 — for teaching and research in manufacturing dairy products.

The principal building of the unit will be named "McCord Hall" in honor of Tennessee's former governor, Jim Nance McCord, who will be one of the speakers at the dedicatory services. Other speakers will be dairy leaders of Tennessee and the nation as well as University and state officials.

The South's leading dairy state, Tennessee will now have among the best facilities in the nation for dairy teaching, research, and extension work to serve its rapidly expanding dairy industry, declared Dr. Brehm.

Predictions are that Tennessee will become one of the nation's great dairy states. Milk and dairy products are already the state's largest single source of farm income.

Agricultural leaders who will speak during the one-day program include Commissioner Edward Jones of the Tennessee State Department of Agriculture, Professor H. B. Henderson of the University of Georgia Dairy Department, O. E. Van Cleave of Chapel Hill, Tenn., former state agricultural commissioner.

Also O. E. Reed, chief of the U. S. Bureau of Dairy Industry; Raymond Skinner, Memphis dairy manufacturer; N. R. Wilson of Charleston, Tenn., manager of the Chattanooga Area Milk Producers Association; and Dean J. H. McLeod, head of U-T's College of Agriculture and Home Economics.

In the official dedicatory ceremony, Williston M. Cox of Knoxville, chairman of the U-T Board of Trustees, will present the million-dollar dairy unit, and President Brehm will accept it. Another U-T trustee, James T. Granbery of Brentwood, chairman of the Agricultural Committee, will discuss the use of the buildings to serve the state's $100,000,000 dairy industry.

McCord Hall, the principal dairy building, is collegiate Gothic in architectural style, but completely modern throughout. Brick veneer and a tile room cover a concrete-and-steel framework. Floors are terrazzo and asphalt tile, ceilings soundproof board. Walls are ceramic tile from the floor to eye-level, pastel-tinted plaster from there up.

A dairy farm equipment laboratory and one classroom are the only academic rooms on the bottom floor. Space is devoted to a cafeteria and attendant kitchen — a needed convenience for all agriculture students, since the University Cafeteria is on the main campus, a mile away. Also on this floor is a locker and shower room for students.

Laboratories and offices dominate the second floor. There are four laboratories, designed respectively for microbiology, dairy products research, dairy technology, and elementary dairy instruction. The herd book and study room is also on this floor.

Main offices of the department are on the next floor with classrooms, a seminar room, and two research laboratories. The lecture room on this floor is built in tiers like a football stadium for better hearing and view.

Since the department uses educational movies, the lecture room and one classroom are provided with blackout curtains. No one will get sleepy due to stuffy air while movies are being shown — the curtains are equipped with lightproof air vents.

A large room on the top floor is reserved for short courses for Tennessee farmers and dairymen. A small-animal research laboratory and a photographic darkroom are on the same floor.

Dairy Products Building

The Dairy Products Building, a full-size factory for manufacture of milk products, is completely fireproof. The framework is steel, inner walls are ceramic tile, and the roof is constructed of concrete slabs. The upper layer of the roof is concrete mixed with granulated cork, upon which tile is nailed.

Terrazzo, brick tile, and Tennessee marble are all used for workroom floors. The industry will be able to judge by observation which type of flooring holds up best under floods of waste.

Milk for use in operating the factory-size equipment will be purchased through the Knoxville Milk Producers Association, and cream from 200 individuals in the area in addition to the University herds.

On one side of the main floor are a butter-and-cheese laboratory, cream receiving rooms, and rooms for butter hardening, printing, and storage. On the other side are a market milk laboratory, milk receiving room, bottle-washing room, ice-cream laboratory, and ice-cream-hardening room.

The hardening room, kept at 10 below zero, has an anteroom at its entrance to cut down condensation when doors are opened. Fruit for flavoring ice cream will be kept in the anteroom.

In the center of the building are a testing laboratory, research laboratory, and starter laboratory. Near the main entrance is a counter and display area where milk products will be sold to visitors.

Storage rooms, compressor room, dairy machinery laboratory with tool room, linen room and small laundry for work clothes, locker room, offices, and one classrom are in the basement. Students will repair dairy machines and devise new ones in the laboratory, which is really a machinist's shop.

Seven compressors, all interchangeable, are being installed so that refrigeration can be easily regulated. They are all of different sizes, two of them boosters.

Barber and McMurray, architects, and A. R. McMurray Construction Company, both of Knoxville, designed and built both structures. Thomas B. Harrison, professor and creamery manager, along with Professor C. E. Wylie, worked with the architects. Dr. E. W. Swanson supervised laboratory equipping of the buildings.

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M. J. KLUGER

Accounting

by M. J. Kluger

An accountant is like a navigator. His job is to establish where you have been, where you are, and where you are going. For some time we have felt the need of a page in the American Milk Review devoted to a discussion of accounting problems. We are more than a little pleased, therefore, to present Mr. M. J. Kluger who will conduct a monthly accounting page in this magazine. Jim Kluger, partner in the accounting firm of Kapleau, Kluger & Co. of Philadelphia, is a specialist in dairy accounting. He was formerly connected with the office of the federal market administrator in Philadelphia. His column, which will appear exclusively each month in the American Milk Review, will attempt to answer questions submitted by readers. Please address your questions to M. J. Kluger, Kapleau, Kluger & Co., 1414 South Penn Square, Philadelphia 2, Penn.

QUESTION NO. 1 — My bottle costs seem to me to be somewhat high. How can I calculate the number of trips I get per bottle?

ANSWER NO. 1 – Bottle trippage is computed by dividing the traffic in bottles (that is, the number of bottles moved or sold) by the number of bottles lost and broken for any given period. To determine bottles lost and broken, add opening inventory of bottles to bottle purchases, then deduct the closing inventory. The difference will be bottles lost and broken. For example:

Opening inventory, first of month		
New bottles in stock		18,000
Floating stock (bottles in use and in customers' hands)		105,000
Total opening inventory		123,000
Bottles purchased during month		17,280
Total to account for		140,280
Closing inventory, end of month		
New bottles in stock	15,000	
Floating stock	110,000	
Total closing inventory		125,000
Number of bottles lost and broken during month		15,280

To determine the traffic in bottles, add up the total bottles sold during the month. In this case, assume the total bottles sold were 488,000. By dividing 488,000 by 15,280, the bottles trippage is found to be 32 trips per bottle.

In computing bottle trippage, all bottles are intermingled, that is, no differentiation is made between quart, pint, and half pint sizes. Each bottle, regardless of size, is counted as one unit. Floating stock is usually determined in one of two ways, both estimates. The first method is to multiply average daily sales (in bottles) by a set number of days. Five days is a fair, conservative measure. In other words, it is assumed that five days' sales or supply of bottles is always in use and in customers' hands. The second method requires counting (from sales or load sheets) the number of bottles sold on the last three days in the current month and the first two days in the succeeding month. This again assumes that five day's supply is outstanding, but the five day period is a more likely one than using an average. Whichever method is used doesn't much matter, as long as one method is picked and is used consistently. The same applies to the number of days outstanding. Whatever number is estimated, use it consistently month by month unless circumstances show that a change in the estimate is desirable.

To pin down bottle losses by route, keep an accurate daily record of each route's bottles out and bottles in. The "balance of bottles out" for the month will represent, in the computation, "bottles purchased" by the route. The opening and closing inventories on each route will be floating bottles only, computed for five days, by either method. The traffic for the route is the month's sales in bottles on that route. By using the same calculation as above, divide the traffic for the route by the computed lost and broken for the route to determine the bottle trippage.

QUESTION NO. 2 — Our gross profit changes considerably from month to month, and it does not change consistently as the sales pattern changes. How can we tell how much of the change is due to changes in cost of milk, changes in selling price, and loss or gain in sales volume?

ANSWER NO. 2 – By "gross profit" I assume you mean the margin of sales over the product cost, without considering processing expenses. Gross profit studies and analyses are one of the most important, if not the single most important, factor in gauging operations. No quick answer can be given to your problem because of the variation in normal gross profit among the different items handled. For instance, the gross profit on "A" milk is not the same as the gross profit on "B" milk, nor on chocolate milk, buttermilk, skim, cottage cheese, butter, and the whole gamut of products handled. Your question can be answered fully only by making an analysis of the three influencing factors you mention,

FIGURE 1

	May, 1949 — Amount	May, 1949 — Per Cent	November, 1948 — Amount	November, 1948 — Per Cent
Net Sales	$50,127.35	100.00	$47,099.17	100.00
Materials Cost	32,500.00	64.83	26,882.24	57.08
Gross Profit	$17,627.35	35.17	$20,216.93	42.92

Assume that purchases, sales, and price factors are as follows:

	May, 1949	November, 1948
Pounds milk purchased	650,000	480,040
Average price paid	$5.00/cwt.	$5.60/cwt.
Milk sales	211,628 qts. @ 20c	200,930 qts. @ 22c
Cream sales	9,319 qts. @ 75c	2,294 qts. @ 100c
Skim sales	81,250 qts. @ 1c	20,019 qts. @ 3c

The calculation of causes in gross profit changes may then be made as illustrated in Figure II.

FIGURE II

Increase in gross profit due to fewer pounds purchased in November—	169.960 lbs. @	$5.00/cwt.	$ 8,498.04
Decrease in gross profit due to higher price paid in May—	480.040 lbs. @	.60/cwt.	2,880.24
Net Increase in gross profit gained on lower product cost			$ 5,617.76
Increase in gross profit due to higher resale prices in November			
Milk Sales	200,930 qts. @ 2c	$ 4,018.60	
Cream Sales	2,294 qts. @ 25c	573.50	
Skim Sales	20,019 qts. @ 2c	400.38	
Total increase due to higher resale prices			4,992.48
Total Increases in Gross Profit—November over May			$10,610.24
Decrease in gross profit due to lesser volume sold in November			
Milk Sales	10,698 qts. @ 20c	$ 2,139.60	
Cream Sales	7,025 qts. @ 75c	5,268.75	
Skim Sales	61,231 qts. @ 1c	612.31	8,020.66
Net increase in gross profit—November over May			$ 2,589.58
May, 1949 Gross Profit			17,627.35
November, 1948 Gross Profit			$20,216.93

product by product. To get at the essentials of the problem, however, let us assume you handle only fluid milk and cream, and sell your skim from separation at anything from 1 to 3 cents per quart. Let us assume further, to not obscure the elements of the problem, that your entire supply is purchased from dairy farmers. A gross profit section of a profit and loss statement might look something like figure 1.

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DAIRY SHORT COURSES AT RUTGERS

New Brunswick, N. J.—Two short courses in the field of dairy manufactures will be offered by the College of Agriculture, Rutgers University, early next year. They are a course in ice cream making to be held Jan. 9 through the 19th and a market milk course, Jan. 23 through Jan. 26. Both are free to residents of New Jersey.

Students in the ice cream making course will learn the composition, testing, processing and freezing of ice cream mixes, using the College's new continuous freezer of the type which most modern ice cream plants now have. An all-day conference will be held Jan. 20 when students will have a chance to sit in with representatives of ice cream companies and hear discussions on current developments and problems of the industry.

The market milk course will follow the same pattern. There will be lectures and laboratory work on production and processing of milk and a conference with commercial processors and distributors January 27. Those who take this course may also take the State milk tester's license examination.

Further information about the courses can be obtained from Prof. Frank G. Helyar, director of resident instruction at the College of Agriculture, New Brunswick, N. J.

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GIRTON ON WEST COAST

The Girton Manufacturing Company of Millville, Pennsylvania has announced the opening of a West Coast Office at 204 Davis Street, San Francisco 11, California, according to a statement made by Paul K. Girton, President of the Company. This office will be under the direction of Arthur Weiner, who is in charge of sales for the West Coast area.

The expanding business in this section has necessitated the opening of the new office in order to better accommodate dairy processing plants in the region.

NUTMEG COUNCIL ELECTS A. C. Fisher Chosen to Lead Dairy Organization at 27th Annual Meeting

A. C. Fisher, Managing Director of Bryany and Chapman-R. G. Miller and Sons, Hartford, was re-elected president of the Connecticut Dairy and Food Council at the organization's annual meeting in September. Other officers elected were Vice-President, Donald Thomsen, Connecticut Wholesale Producers' Council; Honorary Vice-President, Charles G. Morris, New Haven; Secretary, Stewart Johnson, University of Connecticut; Treasurer, E. O. Anderson, University of Connecticut. Newly elected to the board of directors were Joseph Emmons of Springfield, and Lyman Hall of Kensington.

Dr. E. A. Perregaux, Toastmaster, emphasized the continuing need for Dairy Council work in Connecticut. Over 80 industry leaders attending the meeting applauded the slide-film, "Your Dairy Council On the Job". Miss Marian Arnold, Nutrition Director, and the Nutrition Staff acted as commentators during the showing of the slidefilm which gave a graphic picture of the Health Education work of the Dairy Council in Connecticut. This pictorial story of the Dairy Council Nutritionists working with leaders in the health and medical fields, proved to be an excellent Annual Report of the Council's work to the Dairy Industry.

Dr. Alfred Burgdorf, Hartford Health Officer, commended the Dairy Council on the cooperation of its personnel in Community Health Projects.

A feature of the meeting which commanded a great deal of attention was the Health Education Art Exhibit. This exhibit of caricatures showed Connecticut's Dairy industry leaders engaged in such healthful tasks as exercising, drinking milk, enjoying ice cream cones, and performing other tasks conducive to physical fitness.

Kurly Kate
METAL SPONGES
Designed especially for cleaning all types of dairy equipment and utensils. Will not rust or splinter, cut the hands or injure metal or plated surfaces. Kurly Kate Metal Sponges are fast working, easy to use, and easy to keep clean. Made in STAINLESS STEEL, NICKEL, SILVER and BRONZE.
KURLY KATE CORPORATION
2215 S. MICHIGAN AVE. CHICAGO 16, ILL.
GUARANTEE
Send for a trial order
Satisfaction fully guaranteed
Kurly Kate
stainless metal sponge
FOR EASIER INDUSTRIAL CLEANING
SOFT ON HANDS
SANITARY
ORDER FROM YOUR JOBBER OR WRITE DIRECT

SUPPLEE TO ERECT NEW PLANT

PHILADELPHIA, PA. — One of the most modern milk plants in the nation and the largest in this area will be built by the Supplee-Wills-Jones Milk Company at Tabor Road and Harrison Street, this city, it was announced in late September by Fred S. Kirk, vice-president in charge of engineering for Supplee.

Contracts for construction of the new processing and distributing plant were signed at the time of the announcement, and construction will begin early this month, Mr. Kirk disclosed.

The new plant, which will be of red brick and limestone and contain 112,000 square feet, will cost $2,500,000. It will be constructed by Matthew J. McCloskey. It is expected to be completed before December 31, 1950.

Plans for the building were prepared by the architectural firm of Stohldrier and Zetche. The Ballinger Company, architects and engineers, 121 N. Broad St., are associate architects and engineers in charge of construction of the new building. Krey and Hunt for mechanical services, and Louis Kalischer for electrical engineering, are the consulting engineering firms.

Located on a 10-acre plot, the plant will be of the new one-story type which provides for greater efficiency than the present multi-story operations now in use by Supplee and many other dairies. It will be geared to process at maximum production more than 200,000 quarts of milk a day, twice the capacity of either of the company's present processing plants at 26th and Jefferson Streets and 47th Street and Lancaster Avenue.

Completely air-conditioned, the interior will be constructed of tile and the latest in dairy machinery will be installed. It will be the first dairy plant in the country to use fork-lift trucks and pallets in place of extensive conveyors for moving materials through the plant.

Built along sidings of the Pennsylvania and Reading Railroads, the plant will be equipped to receive direct shipment of milk by can, tank truck or railroad tank car from all points in the Philadelphia milkshed.

When completed the new plant will process milk for more than 160 home delivery and 75 store routes now served from the company's 26th and Jefferson Street plant and the Frankford, Germantown, and Jenkintown delivery branches. These branches will be closed and employes now located there will be transferred to the new plant or other Supplee operations.

Office personnel of the closed branches will be housed on the second floor of the new building. All equipment used in processing and distribution, however, will be confined to the first floor, which will be 478 feet long and 283 feet wide. General offices of the company will remain temporarily at 26th and Jefferson Streets.

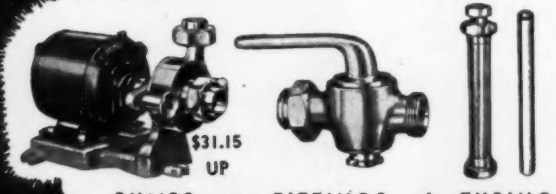
SENATOR DULLES GIVES A READING

Candidate for reelection to the United States Senate from New York State Senator John Foster Dulles asked a potent question in verse form at a recent political meeting.

"The Government, it is probably true,
Will take care of me and take care of you.
Take care of our birth, our marriage, our death,
Take care of our first and final breath,
Take care of our thoughts, take care of our rent,
But who will take care of the government?"

STAINLESS STEEL **THOMSEN** NICKEL ALLOY

SANITARY AND BRINE VALVES LINE FILTERS



PUMPS FITTINGS TUBING

L. C. THOMSEN & SONS, INC., KENOSHA, WIS.
Sanitary Equipment for the Processing Industries

Thompson's **PNEUMATIC ACID PUMPS**

★ EASY to operate for air pressure causes a steady, smooth flow of acid. No spurts or splashing.

★ SAFE for it is impossible to create dangerous air pressure. Flow of acid stops instantly by pressing release valve.

★ CONVENIENT — operates at floor level — no lifting of carboys. Pump pipe serves as gauge — easily transferred to new container.

Descriptive Literature on Request.

THOMPSON MFG. CO., Inc., 152 W. 12th St., ERIE, PA.
Sold by Jobbers in All Principal Cities

RECONSTITUTED MILK

(Continued from Page 43)

with the existing milk supply as an extender.

Summary

Bottled fresh concentrated milk, concentrated at ratios of 2:1 and 3:1, homogenized and pasteurized, was furnished consumers in order to find out their reactions to the product.

The process of concentration itself was very similar to that employed in preparing evaporated milk for canning. In so far as possible low temperatures in forewarming were used to keep the formation of heated flavors to a minimum. Nevertheless, the cooked type of flavor seemed to predominate in the reconstituted product.

Homogenization pressures of 2,000 to 2,500 pounds of square inch were adequate to maintain satisfactory homogeneity of the reconstituted product.

Little difficulty seemed to be encountered in reconstituting the product in the home. The type of water used was found to be a factor affecting the flavor of the reconstituted milk but was believed not to be a serious one.

As a rule, consumers noted a difference in flavor between the reconstituted milk and regular pasteurized milk, but the cooked flavor predominating was not objectionable to the majority of the consumers surveyed in the study. While most of the consumers were interested in the added refrigerator space afforded by using the concentrated product they were not interested in buying it regularly unless a saving of 2 or 3 cents per quart of milk equivalent could be effected. However, the greater percentage of consumers believed that bottled, fresh, concentrated milk had commercial possibilities.

Literature Cited

(1) Chicago Daily Tribune
1949. Cow-to-can process keeps milk fresh for weeks. Chicago Daily Tribune. 108 (47): 1, 2.

(2) Meredith P. W. and Stoltz, R. B.
1933. Bottled concentrated milk. The Milk Dealer, 24 (5): 38-41.

(3) Spencer, L.
1949. Two studies of milk distribution costs and profits in the New York market. Address, 28th Annual Farm and Home Week, Cornell University. Ithaca, N. Y. 11 pp. (mimeo.).

●

CAN NORTHEAST FORGET

(Continued from Page 4)

milk in the east being priced at a level directly affected by the price of milk for manufactured dairy products.

To summarize at this point: Despite the Boston formula and the recommendations of the New York Milk Shed Price Committee, very large volumes of milk in the Northeast are now and will continue to be priced at a level that is directly related to the price paid for milk used in the manufacture of dairy products.

There is at least one other factor which needs to be given consideration. As a seller of fluid milk, I am, naturally, interested in the competition of evaporated milk. If the Class I price stays so high that consumption of fluid milk is adversely affected while the price for evaporated milk stays so low as to stimulate consumption, then, indeed, fluid milk dealers in the Northeast are in a bad way. Fluid milk sales in Boston rose 31% from 1940 to 1946 and declined 6% from 1946 through 1948. In New York fluid milk sales rose 27% from 1940 to 1946 but declined about 5% from 1946 through 1948. Evaporated milk consumption increased only 3% but, and this is significant, from 1946 to 1948 fluid consumption generally dropped about 4% but evaporated milk consumption has increased 14%. If we continue to price Class I milk at a level which is high in relation to the condensery price, all we are doing is stimulating the sales of evaporated milk at the expense of fluid milk.

Finally, what is the effect of the price support programs on butter and powder and the proposed Brannan plan for milk, generally? I do not purport to be an expert on how the Brannan plan will actually work, but, if I do understand its fundamental feature, it seems to me that Class I prices in the Northeast, being based primarily on general economic conditions, might decline drastically while the prices of manufactured dairy products were being, in effect, supported by payments to producers. In other words, Northeastern producers might, because of a pricing policy which disregards the prices of manufactured dairy products, find their returns declining at a time when their fellow producers in the Middlewest were having their manufactured milk prices supported by the Government.

All of these factors lead me to the conclusion that, over a long period of time, pricing Class I milk without regard to prices paid for manufactured milk, other than the influence of such prices upon the general price level, may not turn out to be a very satisfactory method of pricing fluid milk in the Northeast.

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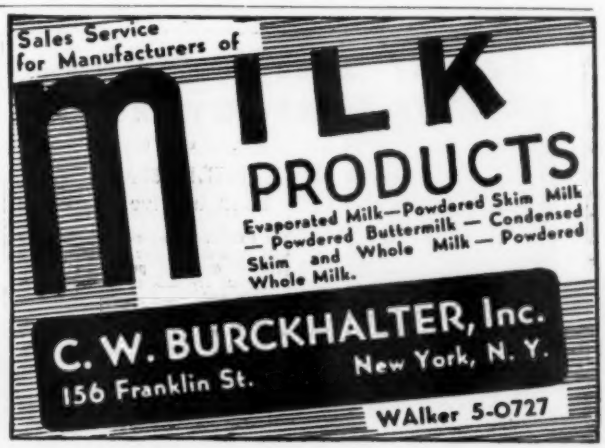
NEW PRESIDENT OF VOGT'S

It was announced recently by Frederick C. Vogt, Chairman of the Board of Vogt's Ice Cream, Inc., that Edward C. Field has been named president of the company. The position of president was formerly held by Mr. Vogt. Mr. Field was president of the Childs restaurant chain from 1941 to 1948.

Vogt's Ice Cream, Inc. has been engaged in the manufacture of ice cream and dairy products since 1929. Mr. Field's appointment marks an important step in the company's post-war expansion program. Production facilities have been increased over 200% and the Vogt plants are among the most modern in the country. The company has plants in Englewood, New Jersey; New Kingston, New York; and New York City. Executive offices are located at 141st Street and Park Avenue.

IS STAINLESS STEEL WORKING FOR YOU?
SAVE TIME... SAVE MONEY!
STAINLESS STEEL is the ideal metal for milk plant equipment. Chemically inert to all dairy products, stainless steel does not affect color, odor, or flavor. Easy to clean and rust resistant stainless steel will give years of lasting service.
We are pioneers in the design and manufacturing of stainless steel milk plant equipment. Our engineering staff is at your service—write us your requirements.
STAINLESS & STEEL PRODUCTS CO.
1000 BERRY AVENUE
ST. PAUL 4 MINNESOTA


Sales Service for Manufacturers of
MILK PRODUCTS
Evaporated Milk—Powdered Skim Milk — Powdered Buttermilk — Condensed Skim and Whole Milk — Powdered Whole Milk.
C. W. BURCKHALTER, Inc.
156 Franklin St.
New York, N. Y.
WAlker 5-0727

USING OUR SEPARATOR • ITEMS OF INTEREST SKIMMED FROM HERE AND THERE

New Model Milk Cases

C. E. ERICKSON Company, Inc., Des Moines, Iowa, manufacturers of aluminum milk cases have announced three new models to round out a complete line of cases for all popular size bottles. All feature the Erickson "Easy-Rest" bottom which is especially designed to reduce bottle breakage.

New Models, each of which is for square bottles, are No. 810 for 20 squat half pint bottles, No. 820 for 20 of the one third quart size and No. 830 which holds 20 pint size bottles.

Another recent addition to the Erickson line, is the Model 800 which holds 24 tall half pints.

•

Sanitary Storage of Filter Discs

A NEW MILK filter storage cabinet and improved method of picking up and placing filter papers in milk strainers is now offered the dairy industry by the Andison Company of Rockford, Illinois, division of Forest City Forge, Tool and Die Company.

The new storage cabinet, which is the sanitary type approved by health authorities, holds a complete carton of filter discs and has room for storing a pickup tool that is supplied and sold with the cabinet.

The cabinet is constructed of heavy 20-gage steel. It has a smooth, baked enamel finish that is easy to keep clean. Brass rustproof hinge rivets are provided. Four brackets with screw holes, two on each side of the cabinet, provide convenient mounting. The cover is made to overlap the entire top section of the box and is designed so that from its own weight will completely close automatically. This provides added protection against dust and dirt.

The cover slopes downwardly on the front side, which assures easy access to filters. The bottom of the box is provided with an open area for air space which

eliminates condensation and moisture accumulation that would damage the filter discs. The overall size of the box is 8¼ x 8¼ x 7" deep.

The new patented pickup tool provides an easy means of picking up one filter disc at a time and eliminates any danger of soiling or contaminating filters with dirty hands. It provides a means for accurately placing and centering filter papers in milk strainers. The tool has four flexible prongs which lightly grasp the fibres of the filter discs without puncturing or damaging the paper.

The pickup of the filter discs is accomplished by retracting the barrel and flexible prongs. Then, by releasing the spring-loaded barrel element, the four prongs engage and hold the filter discs. Release after positioning in a strainer is accomplished by again retracting the prongs.

•

Mastitis Bulletin

HOW DISEASED dairy cows endanger the milk industry is the subject of a new bulletin issued by Sterling Research Corporation of Buffalo, New York. The bulletin reflects the constant effort of the Sterling Research people, manufacturers of KO-EX-7 Brom Thymol Mastitis Detectors, to educate dairymen as well as sell them.

The bulletin discusses the status of milk from diseased cows under the law and points out the economic costs as well as the health dangers inherent in mastitis. Perhaps the most outstanding statement contained in the bulletin, from the milk handler's point of view is a quote from Wendell Vincent of the United States Food and Drug Administration. "While it may be said that the proper pasteurization of such milk (milk from a diseased animal) may make it safe for use, it does not, however, make it legally marketable."

Copies of the bulletin may be had by writing to the Sterling Research Corporation Dairy Division 22, Buffalo 3, New York.

•

Triple Seal Tube Fitting

A NEW "clinch-type" fitting for use with any type of metal or plastic tubing has been developed by the Crawford Fitting Company, Cleveland

Better DRY MILK AT LOWER COST

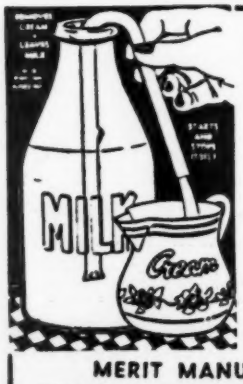
• • •

DRY MILK MACHINES
Built in Five Sizes

The Patented, glass-smooth, "20-year cylinders" give years and years of maximum production of a superior dry milk at the lowest possible cost.

Many other exclusive features insure long life with low steam and power costs. Complete details upon request.

OVERTON MACHINE COMPANY
DOWAGIAC MICHIGAN



AN EFFECTIVE BUSINESS BUILDER
A Useful X'mas Gift

MAGIC CREAM SIPHONS for home use, remove cream from bottled milk to use with coffee, cereals and desserts.

PLEASE OLD CUSTOMERS — WIN NEW ONES

Leading dairy firms find Magic Cream Siphons a welcome sale booster aid. Homes using a cream siphon consume more milk when they learn how many foods are improved by the liberal use of milk instead of water in preparing.

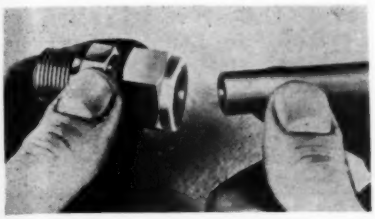
Free sample for round or square bottles
Glass $15.00 per gross or $100.00 per 1000
Aluminum $17.50 per gross or $115.00 per 1000

Complete Satisfaction Guaranteed

MERIT MANUFACTURING COMPANY
3455 EAST 150TH STREET CLEVELAND 20, OHIO

17, Ohio. Prior to its introduction, it was given exhaustive tests in actual service in chemical, process, power and other industrial installations.

Marketed under the trade name of "Swagelok", these new fittings provide leak-proof seals at three points. Two ferrules and a threaded chuck clamp around a tube with virtually no effect on the inner walls, thus leaving the flow of liquids or gases completely unimpeded.



Tests have indicated that tubing will burst before these fittings themselves will leak. The axial support which "Swagelok" fittings lend to a tube assembly tends to drive vibration away from the fitting, thereby minimizing fatigue.

Assembly operations are also aided by the design of the fittings, which require no disassembly before use. No flaring or other time-consuming preparations of the tubing to be used is required. The "Swaelok" is simply slipped onto the end of a tube and given one-and-one-quarter turns with any standard wrench. The resulting assembly is then ready for service. No damaging torque or twisting is transmitted to the tube during this brief tightening operation.

At the same time that the Crawford Fitting Company is making these new "clinch-type" fittings available, they have also announced the addition of Monel to the selection of alloys in which "Swageloks" may be obtained. These other materials include brass, aluminum, steel and stainless steel, Types 303 and 316. Connectors, unions, elbows and "tees" are all being produced, in a range of sizes that permit their use with tubing ⅛ to 1 inch in outside diameter.

Rotary Fillers and Conveyors

THE MANY VARIATIONS in types of containers and caps now used in the bottling of dairy products is no longer a source of confusion in ordering Specialty Automatic Rotary Fillers and Conveyors as a result of a unique order blank recently designed and put into use by the Specialty Brass Company, Kenosha, Wisconsin. The order blank is known as Bulletin No. 42.

Such data as filler sizes, motor specifications, bottle shapes and sizes, types of cappers, fill valves, strainers and the like is recorded on page one. Both of the inside pages are devoted to bottle conveying equipment from half-pints to gallons with the necessary component conveyor parts illustrated as a visual guide to the purchaser. There is also a "scaled" space in which to sketch in the proposed conveyor. One of the outstanding features of the Specialty conveyor is the one-piece construction of the conveyor track and side rail.

Information covering filling capacities, overall heights and tank capacities and other general information relating to Specialty Rotary Fillers and Cappers is included on the fourth page. The entire order blank has been so designed that, when filled out in its entirety, there can be no doubt as to even the smallest detail in what the customer desires. A price list accompanies the order blank.

●

PLANT MAINTENANCE PAGE

Don't miss the plant maintenance page beginning in the January issue of the American Milk Review. The page will be conducted by Fred Degenhardt, New York architect, who is a specialist in dairy plant construction.

Power Air Exhausting Units

NOW IN PRODUCTION by the Gallaher Company, Omaha, Nebraska, & Owatonna, Minnesota, is a new power air exhaust unit.

The Air-Van uses a squirrel-cage fan to answer problems of modern architecture. Capacities range from 150-12,000 CFM. All ratings are certified by Professor A. B. Algren, University of Minnesota, member, Research Committee, American Society Heating and Ventilating Engineers.

A unique feature is the motor enclosed and out of the air stream, eliminating corrosive action by either moisture or chemical fumes, as well as any explosive danger. The Air Van can be furnished in special metals if desired.

The motors are pancake type with grease sealed, lifetime bearings for extra long life. Servicing is no factor.

The Air-Van uses a squirel-cage fan with blade design that gives maximum and positive air expulsion.

Unit is completely weatherproof. The air outlet, often a source of "blow back", is designed to prevent this occurance even under the most extreme weather conditions. Air is expelled out and downward onto roof. No back draft damper required.

Installation costs are economical in as much as unit is direct connected to ducts and occupies wasted roof space. Costly penthouse installations are not required.

Your chocolate Milk drink can be no better than the materials you put into it.

Chocolate drinks made from

Forbes CHOCOLATE

FLAVOR POWDERS

are flavorful, smooth, delicious.

Write for Free Sample.
Make your own taste test.

THE BENJAMIN P. FORBES COMPANY

2000 West 14th Street Cleveland 13, Ohio

WANTS and FOR SALES

Classified Advertising Rates

(Remittance MUST Accompany Order)

Position Wanted

50 word maximum, 50c — 2c for each additional word.

All Other Advertisements

Lightface type: 5c per word ($1.00 minimum).
Boldface type: 10c per word ($2.00 minimum)
(The name and address should be included in counting the words)

Keyed Address

25c additional in the United States.
50c additional in Foreign Countries.

When replying to any of the following keyed advertisements please address replies to:

BOX NO. ..... AMERICAN MILK REVIEW
221 WARREN STREET NEW YORK 7, N. Y.

(The deadline for Classified Advertising is the 10th of the month preceding publication.)

No classified advertising will be accepted to run with borders or special spacing. All such advertisements are considered "Display" advertising and will be billed at regular display advertising rates. (Rates and mechanical requirements on request.)

EQUIPMENT FOR SALE

FOR SALE — At our Warehouse and Shop we have a good selection of Pasteurizers, Coolers, Bottle Washers, Bottle Fillers, Can Washers, Storage Tanks, Heaters, Separators, Weigh Cans, Filters, Ice Cream Freezers, Vacuum Pans, Pumps, etc. Save money by considering good Used and Reconditioned Equipment. Write or wire your requirements. Lester Kehoe Machinery Corporation, 1 East 42nd St., New York 17, N. Y. Telephone MUrray Hill 2-4616. 11-M

FOR SALE — 1 Cherry-Burrell Stainless Steel 20 valve nu-line filler. 1-12 can per minute Wright & McKinley 1942 straight-away can washer. Elmhurst Cream Co., Inc., 154—21 South Road, Jamaica 4, N. Y. 11-M-t.f.

FOR SALE — One 2,000 gallon Cherry-Burrell holding tank. One 600 lb. stainless steel (new) scale weight vat. One 600 lb. stainless steel drop vat match for scales. One pair Toledo scales, 500 lbs. capacity. One 15 hp gas fired boiler (used 18 months). One 4-6 can Straight Away Damrow can washer (used 12 months). One 5 x 5 York ice machine. One Cherry-Burrell plate cooler, 1,000 lbs. per hour (used 12 months). Write Morrison Brothers, Box 158, Greensboro, Alabama. 11-M

FOR SALE — Boilers; Erie Economic 80 H.P. with smoke stack; 50 H.P. Vertical recently re-tubed. Reply Schuette Bros., Breese, Illinois. 11-M

EQUIPMENT FOR SALE

SPECIAL OFFERINGS — 100 to 300 gallon Stainless Steel Pasteurizers; 1000 gallon Cherry Burrell Horizontal Coil Vats, stainless steel linings and tinned copper coils; 6000 lb. Kaestner Internal Tubular Heater, stainless steel tubes; 1000 gallon Cherry Burrell Type CR S.S. Storage Vat; 2000 and 3000 gallon Pfaudler Glass Lined Storage Tanks for by-products only; 600 to 1000 gallon Rectangular Shaped Stainless Steel Vats, 2 ft. deep, no covers. Lester Kehoe Machinery Corporation, 1 East 42nd Street, New York 17, N. Y. 11-M

FOR SALE — C.P. 500 lbs. Churn and 150 lbs. Churn 200 gallon coil vat, retinned New butter tubs and cutter round quart bottles and cases. Write Emmons Dairy, Ashland, Ohio. 11-M

REBUILT — Pasteurizers, Milk Coolers, Bottle Fillers, Ice Machines, Plate Coolers and Heaters, Homogenizers and Bottle Washers. Send us your requirements. Ohio Creamery Supply Company, 701 Woodland Ave., Cleveland 15, Ohio. 11-M-t.f.

EQUIPMENT FOR SALE

FOR SALE — Mojonnier stainless steel, 12 Spout Vacuum Filler and Capper, reconditioned and guaranteed; Model 90 RH for one-half pints, pints, quarts and one-half gallons. Will handle up to 90 bottles per minute. Complete with vacuum pump; inlet and outlet conveyor with stands and stainless steel covers; and stainless steel accumulating table with separate drive. PRICED LOW. Also Sanitary Fittings and Sanitary Pumps. Write The Filter Paper Company, 2460 Michigan Avenue, Chicago 16, Illinois. 11-M

MISCELLANEOUS

FOR SALE — Divco Floor Mats $7.25 per set, f.o.b. Buffalo. Satisfaction guaranteed, state year, Iroquois Mat Co., Swan Street, Buffalo 10 N. Y. 11-M-1

COAL — Pennsylvania, West Virginia and Ohio. Carload Coal Corp., 55 West 42nd St., New York 18, N. Y. 11-M-t.f.

FOR SALE — Truck lettering and trade mark decals, made for your truck and store advertising. Easy to apply; uniform, distinctive, economical for small or large needs. Write for catalog. Mathews Co., 827 So. Harvey, Oak Park, Illinois. 11-M-5

FOR SALE—Orange-Ade Base made from fresh oranges. Nothing to add but water. $1.35 per No. 10 tin. Bradway Chocolate Company, New Castle, Indiana. 11-M-t.f.

FOR SALE — Chocolate Powder and Chocolate Syrup for making Non-Settling Chocolate Milk. Your trial order will receive our prompt attention. Bradway Chocolate Company, New Castle, Indiana. 11-M t.f.

BUSINESS OPPORTUNITY

FOR SALE — Country plant in Pennsylvania — approved for New Jersey and Newark. For particulars write Box 220, care this publication. 11-M

WANTED — Milk plant equipment — used. Give complete information with prices. Write Box 234, care this publication. 11-M

WANTED — Independent operator of several dairy businesses will purchase substantial well established dairy with successful earnings record. Will furnish capital to acquire interest of one desiring to retire or to effect consolidation with another company to increase volume and profits, with retention of present key personnel. Am not a broker. All information held strictly confidential. Satisfactory if contact made through third party. Address Box 226, care this publication. 11-M-1

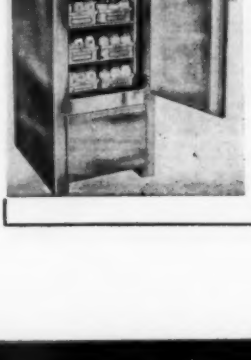
Profit Insurance!

Replace Battered, Unsanitary Cans with SOLDERLESS MILK CANS

THE CREAMERY PACKAGE MFG. COMPANY
General Offices: 1243 W. Washington Blvd., Chicago 7, Illinois
Sales Branches in 21 Principal Cities

Here's the NEW and BETTER WAY!

To Handle Your
COMPOSITE MILK SAMPLES
With the
Compo-Cooler
Refrigerated and Insulated



Successful Milk Plant Managers in every section of the country have bought and are using **Compo-Cooler** Sample Bottle Cabinets.

One of the many reasons is that **Compo-Cooler** handles your composite milk samples rapidly and at a big saving of time and labor.

Compo-Cooler gives you complete electric refrigeration. All cabinets are lifetime stainless steel throughout with a capacity, style and size to fit your particular plants need.

FREE Write today for illustrated booklet and complete details.

COMPO-COOLER COMPANY
GLENS FALLS, I NEW YORK

HELP WANTED

WANTED — Experienced retail milk delivery man who is able to fill an opening to relieve three men on routes, and two in the dairy. He must be a good route builder, take care of complaints and lagging collections. Only men with good references and experience need apply. This is a permanent job with good salary, and possibilities for advancement to foreman. Location, Central New Jersey. Write Box 223, care this publication. 11-M

HELP WANTED — For Central New Jersey — an experienced creamery foreman to run plant bottling 2000 quarts, plus by-products. Good salary to first class man. State experience and salary desired. Write Box 235, care this publication. 11-M-1

WANTED SALESMAN OR BROKER now calling on the dairy and ice cream and fountain trade by basic grinder of cocoa beans, manufacturing complete line of dairy products for dairy and ice cream industry, including fountain chocolate products. Protected territory — full commission on all repeat business and mail orders. State territory and lines representing. Write Box 233, care this publication. 11-M

WANTED — College graduate in dairy processing, preferably one with plant experience, interested in selling. Can offer attractive future. Write Box 228, care this publication. 11-M

REPAIR SERVICE

THERMOMETERS—We repair Mercurial Indicating Thermometers, dial thermometers and recording thermometers of all makes. Instruments are reconditioned like new. Satisfaction guaranteed. For economical savings ship your thermometers to Nurnberg Thermometer Co., 124 Livingston St., Brooklyn, New York. 11-M-t.f.

POSITION WANTED

FOREIGN POSITION WANTED—Dairy Industry Student with graduate from well known State Agricultural Institute seeking foreign employment in dairy industry. Have had experience. Traveled extensively. Open to complete investigation. Write Box 230, care this publication. 11-M

PLANT SUPERINTENDENT wanted by large milk company in Southeast. Must have full knowledge of all milk products and ability to handle personnel. This position is one that provides great opportunity with compensation in keeping with your ability. All replies confidential. If interested write Box 256, care of this publication. 11-M

PLANT WANTED

WANTED TO BUY going milk plant. Preferably New York or New Jersey. Send full details on amount of business, equipment and price. Write I. Rotter, 37 Gouverneur St., New York 2, N. Y. 11-M

EQUIPMENT FOR SALE

FOR SALE — Damrow 600 gallon cottage cheese vat, 18 guage stainless steel, insulated with steel outer jacket and Stoelting agitator. Can be seen and shipped immediately. Also have smaller size vat subject to prior sale. Write Chester J. Swanson, 7232 Rhodes Ave., Chicago 19, Illinois. 11-M

THIRD ANNUAL FOR DISI

International Dairy Group To Meet Concurrently with United Nations FAO in Washington

ATTRACTIONS which await visitors to the Third Annual Meeting of Dairy Industries Society, International, to be held in Washington the week of November 27, are described in a tentative program just released by DISI headquarters.

The program includes a number of tours, addresses by prominent figures in industry and government, work seminars, special demonstrations and displays, and the showing of motion pictures. Language specialists wil be on hand to aid in communication among the the visitors from many continents.

Top industry men who will speak include Dr. Francisco de la Fuente, President of DISI and President of Compania Lechera de Cuba, Havana, Cuba; Col. Benjamin F. Castle, Executive Director of Milk Industry Foundation; Walter Hunnicutt, National Dairy Products Corp., New York; Raymond E. Olson, of Taylor Instrument Companies and President of Dairy Industries Supply Association; Irving Reynolds, of Franklin Creamery Co., Sylvania, Ohio, and U. S. governmental adviser; Robert Rosenbaum, Chairman of the Board of DISI and Treasurer of David Michael Co., Philadelphia.

Names of top-level public officials who will speak have not yet been released because of the tentative nature of some of their acceptances. Certain of them are required to travel internationally on short notice.

The DISI meeting will be held concurrently with the Annual Conference of the Food and Agriculture Organization of the United Nations at the Shoreham Hotel, which will serve as convention headquarters for both groups. The FAO Conference arrangements were made after DISI's Annual Meeting place and dates had been announced.

●

GIRTON NAMES DOUGLAS

Thomas L. Douglas, well-known equipment engineer has accepted a position with the Girton Manufacturing Company of Millville, Pennsylvania. Mr. Douglas will be the sales engineer for the company and will also cooperate with the plant engineering staff in the development of new equipment.

Mr. Douglas has been associated with the dairy industry for many years. Until recently, he was with the Jensen Machinery Company.

The Girton Manufacturing Company is planning an expanded list of equipment, particularly processing machinery suitable for larger plant installations.

A new line of pressure wall type pasteurizers, ranging in capacities from 100 gallons to 1000 gallons has been announced by the Girton Manufacturing Company of Millville, Pennsylvania. These pasteurizers are of stainless steel construction and embody the latest improvements developed in this type of equipment. The refinements of design incorporated into these new machines have resulted in manufacturing efficiencies which makes possible a new low price, according to the announcement of Paul K. Girton, President of the Company.

A bulletin is being prepared on the Girton pressure wall type pasteurizers which will be available in the near future.

●

F. R. deHARDE JOINS DIVERSEY

F. R. deHarde, Chicago, has joined The Diversey Corporation to work with Mid-Western dairy and milk plant operators and their producers in connection with Diversey's Farm Quality Control Program. deHarde makes Diversey's Chicago office his headquarters.

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VITAMIN B_{12} OPENS

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found to be a good source; commercial "vitamin free" caseins were variable sources depending upon the method of preparation; while casein subjected to repeated hot alcohol extration was found to be almost devoid of Factor X or B_{12}[15,16]. When dried skim milk was fed to rats in comparison with B_{12}-active casein prepared from it, both the casein and the skim milk were active. It appeared that the B_{12} activity of the casein accounted for a very large portion, if not all, of the B_{12} activity of the dried skim milk.

When varying amounts of fresh milk were fed as supplements to a B_{12}-deficient ration, the rate of growth increased with each increase in amount. This was true with cows on barn feeds as well as on pasture, and with cows that for years had been on feeds in which it was impossible to detect any vitamin B_{12} activity. Various cheeses also did an excellent job of supplementing the B_{12}-deficient ration. It was concluded that milk and milk products probably contain little or no B_{12} as it occurs in liver extracts or as it has been isolated but they do possess vitamin B_{12} activity when fed to the normal mammal. On the other hand, experiments with cereal grains, oil meals, and yeasts indicated that these products are deficient in B_{12} activity.

Cary and associates found evidence that, under certain dietary conditions, bacteria which either synthesize B_{12} or some B_{12}-active material may thrive in the intestine of the rat. Exceedingly high levels of riboflavin, fed experimentally, were found to play a very important role in bringing about this synthesis. Perhaps the ability of the cow to produce milk high in B_{12} activity from feeds deficient in this vitamin is related to rumen synthesis of vitamin B_{12}.

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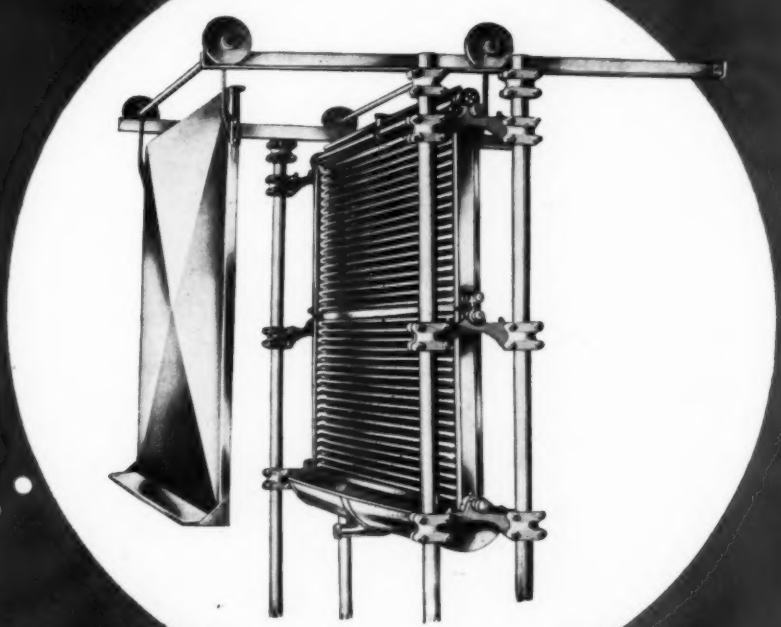

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